DOCUMENT RESUME

ED 076 418 SE 016 062

AUTHOR	O'Dierno, Ernest N.
TITLE	Automated Instructional Management Systems (AIMS) Version III, Program Logic Manual, Volume 1. Source Statement Flowcharts.
INSTITUTION	New York Inst. of Tech., Old Westbury.
SPONS AGENCY	Office of Education (DHEW), Washington, D.C. Bureau of Research.
BUREAU NO	BR-8-0157
PUB DATE	[73]
CONTRACT	OEC-0-8-080157-3691(010)
NOTE	333p.
EDRS PRICE	MF-$0.65 HC-$13.16
DESCRIPTORS	*Computer Assisted Instruction; *Computer Programs; *Computer Science; Instruction; *Instructional Media; Instructional Technology; Management Information Systems; Mathematics Education; Programed Materials
IDENTIFIERS	*Automated Instructional Management System

ABSTRACT

This manual for the Automated Instructional Management System - Version III includes source statement flowcharts for the system input control program and 12 system input subprograms, the operational input control program and 7 subprograms, and the output report generator and 19 subprograms. For related documents, see SE 016 059 through SE 016 064. (DT)

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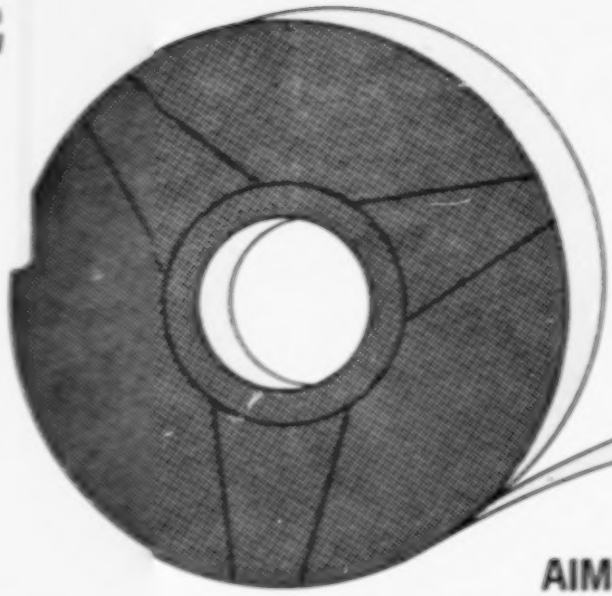

automated instructional management systems

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AIMS VERSION III
PROGRAM LOGIC MANUAL
VOLUME I

NEW YORK INSTITUTE OF TECHNOLOGY
OLD WESTBURY, NEW YORK

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AUTOMATED INSTRUCTIONAL MANAGEMENT SYSTEM

PROGRAM LOGIC MANUAL

SOURCE STATEMENT FLOWCHARTS

Prepared by the Staff of
The Advanced Systems Laboratory

Ernest N. O'Dierno, Director

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FOREWORD

- The Automated Instructional Management System (AIMS) was designed to monitor, score, and evaluate individual students, groups of students, and curricular content in a course environment designated for educational management.

- The AIMS System was designed around IBM System/360, and Version III was generated with Model 30/Release 20 IBM Disk Operating System (DOS).

- All source statement flowcharts contained in this manual have been developed with U.S. Office of Education funds under Research Contract No. OEC-0-8-080157-3691(010).

ADVANCED SYSTEMS LABORATORY
New York Institute of Technology
Old Westbury, L.I., New York

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SECTION I

SYSTEM INPUT

CONTROL PROGRAM

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```
                      1
      COMMON/SYSTEM/NLESS,NDECK,NREK,NQUEST,NSTUT
         COMMON/FILES/IFIL(15)
         INTEGER DATE(5)
         INTEGER SEGMNT,CONTRO(14),PNAME(2)
         INTEGER * 2 COLUMN(80) ,IA  ,  IDENT
         EQUIVALENCE (COLUMN(1),IA),(CARD(1),IC),
        (CARD(2),IC),(CARD(3),ID),(CARD(4),IE)
         INTEGER CARD(4)
         DATA SEGMNT/0/,IDENT/'((('/,
        CONTRO/'HEAD','STUD','QUES','PROC','NECK','FORE','REST','-END',
        '-TO-','-LIS','INPU','DROP','ROST','LIST'/
         DATA PNAME/'MAIN','TOP'/
      DEFINE FILE 5(1500,33,U,I5),
                  6( 800,33,U,I6),
                  7( 200,100,U,I7),
                  8(4000,35,U,I8),
                  9( 250,33,U,I9),
                 10(8040,33,U,I10),
                 11( 500,23,U,I11),
                 12( 100,25,U,I12)
                  1
      ------------------------------------------
      ! NLESS=40                                !
      ! NDECK=10                                !
      ! NREK =2                                 !
      ! NQUEST =48                              !
      ! NSTUD=185                               !
      ------------------------------------------
                  !
                  !
               +------------+
               + 00         +
      +++++++++++    7       +
      +        + I = 1,15    +
      +        +------------+
      +           !
      +           !
      +  ------------------------------------------
    7 +++++++++! IFIL(I) =I                       !
               ! IN   =1                          !
               ! IOUT =3                          !
               ------------------------------------
                  !
  100          CONTINUE
                  !
       (CONTINUED ON PAGE   2)
```

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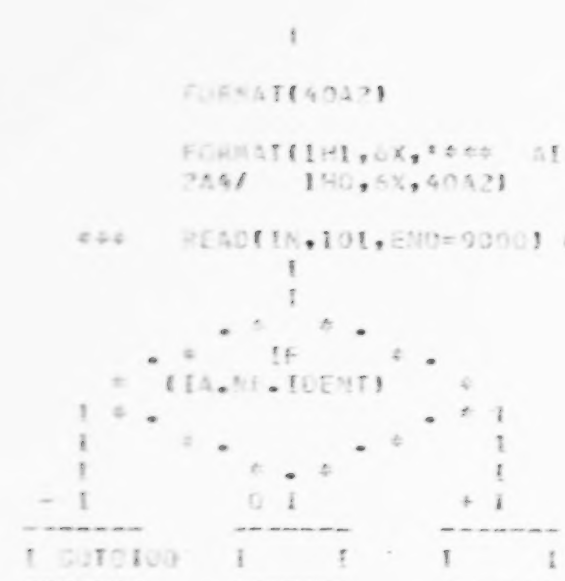
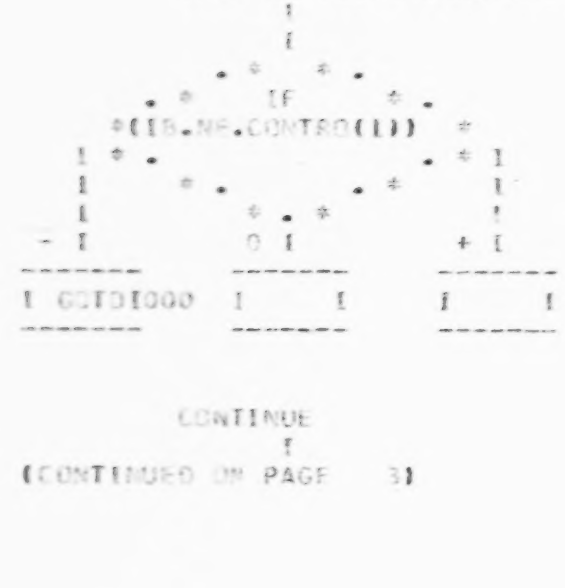
```
      101   FORMAT(40A2)

      102   FORMAT(1H1,6X,'*** AERS ***'      68X,'JOB',3X,2A4,1X,2A4,1A,
     2A4/  1H0,5X,40A2)

      ***   READ(IN,101,END=9000) COLUMN
```




```
            CALL INFE(DATES)

      ***   WRITE(IOUT,102) DATES,COLUMN

            CALL IMAGE(COLUMN,CARD)
```




```
      1000  CONTINUE
```

(CONTINUED ON PAGE 3)

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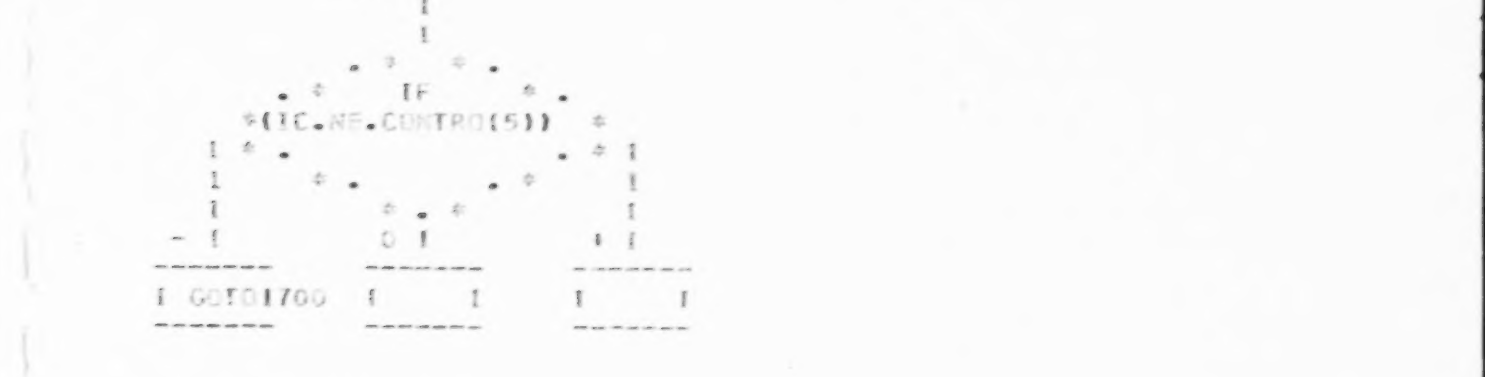
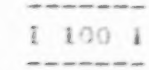
```
      CALL OPSYS('LOAD','ALPSHEAD')
```

```
500   CONTINUE
```




```
      CALL HEADER
```




```
700   CONTINUE
```

(CONTINUED ON PAGE 4)

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```
          CALL STORE
              I
          -------
          I 100 I
          -------
```

```
          CALL ADLIST
              I
          -------
          I 100 I
          -------
```

```
          CONTINUE
              I
(CONTINUED ON PAGE    5)
```

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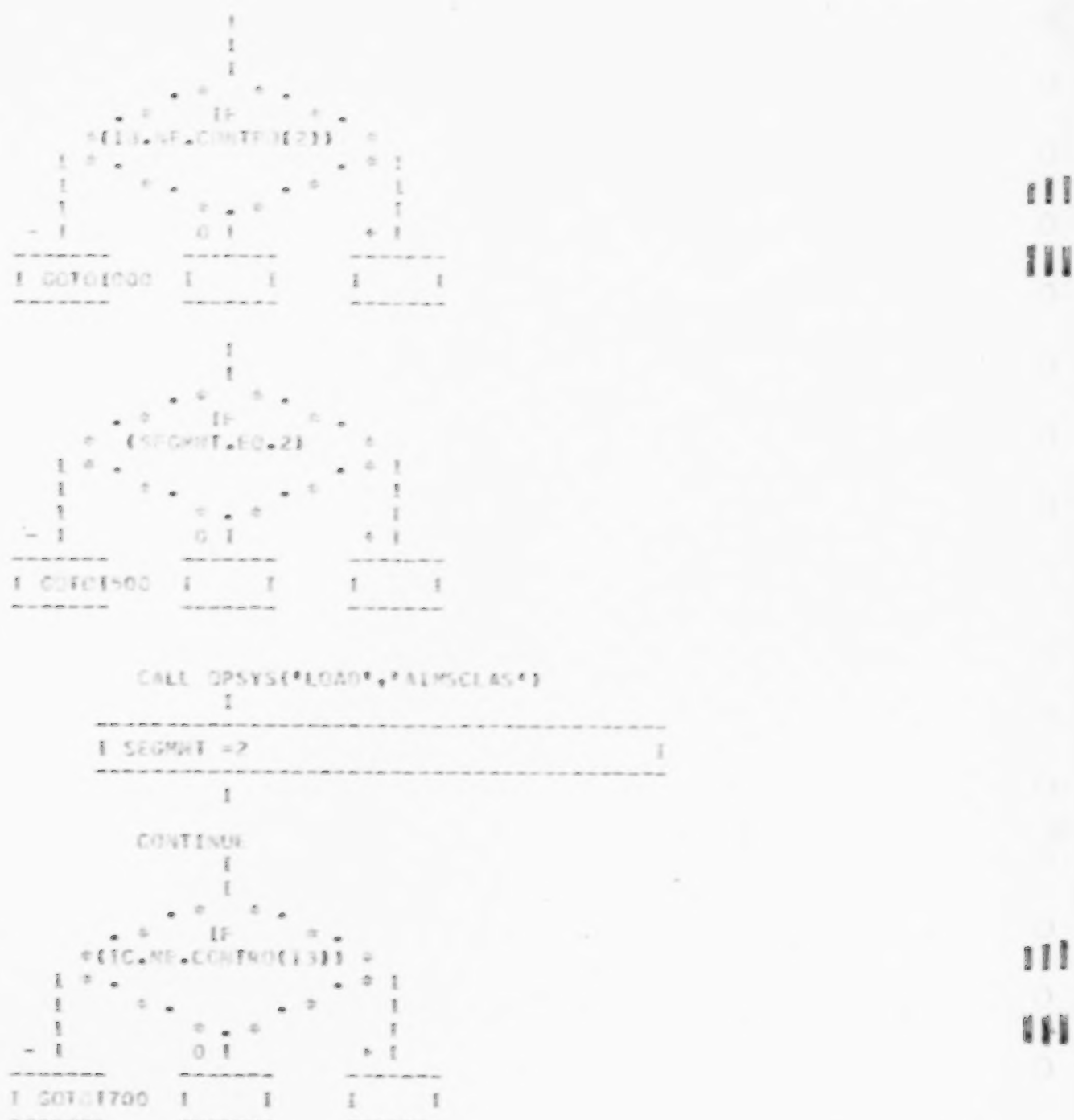

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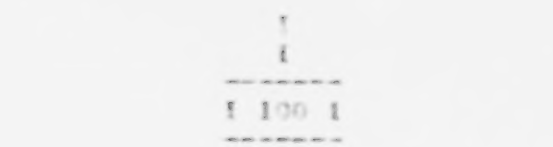

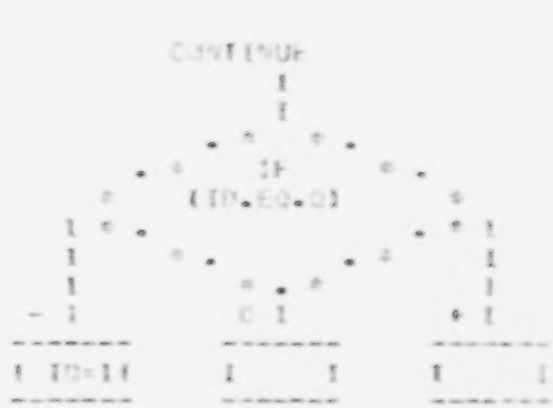

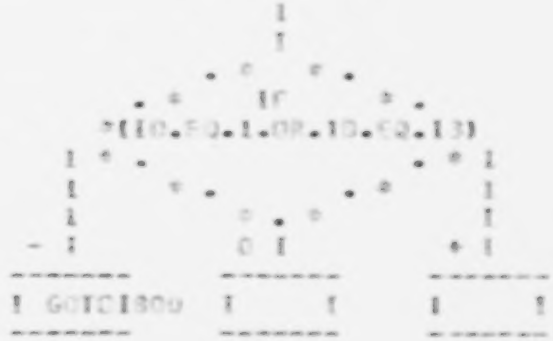

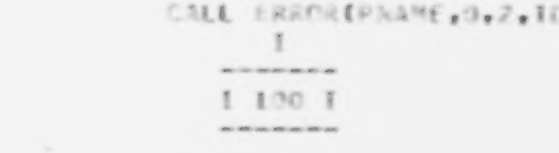

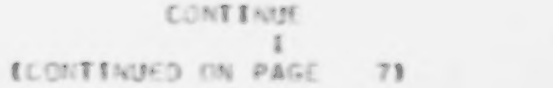

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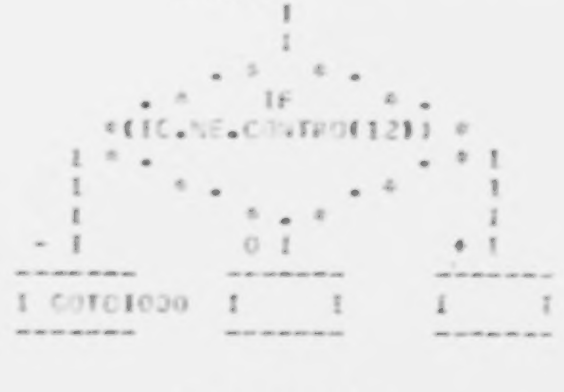
CALL INPUT(IC)

ICC

300 CONTINUE



CALL DROP(IC)

ICC

300 CONTINUE

(CONTINUED ON PAGE 8)

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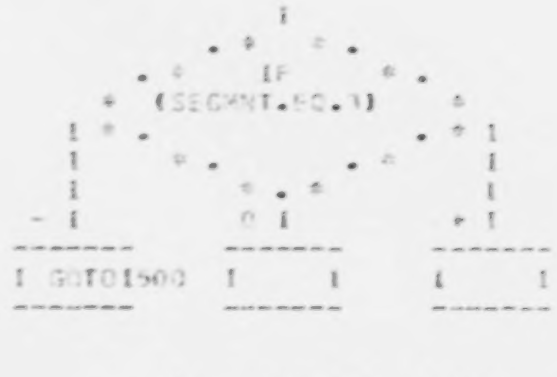
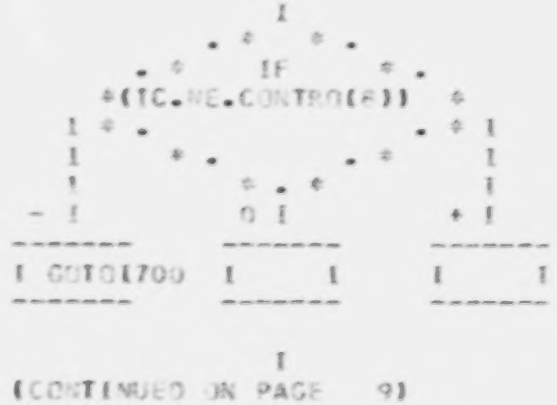



```
            CALL OPSYS('LOAD','AIMSOUST')
500         CONTINUE
```



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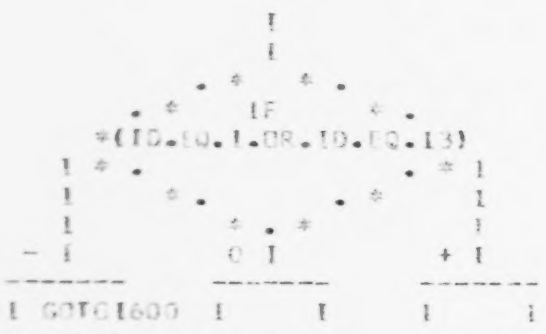
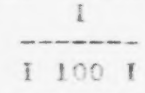
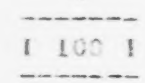



```
                CALL ERROR(PNAME,0,2,ID)
```




```
 3500           CALL MROI(ID,IE)
```




```
 3700           CONTINUE
```

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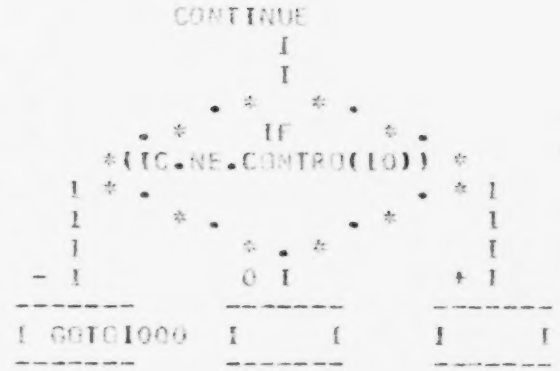
CALL MBOLST
100



CALL OLIST
100

1900 CONTINUE

(CONTINUED ON PAGE 11)

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CALL OPSYS('LOAD','AIMSPRCL')

SEGMNT =4

CALL PROCES(ID)

100

000 CONTINUE

(CONTINUED ON PAGE 12)

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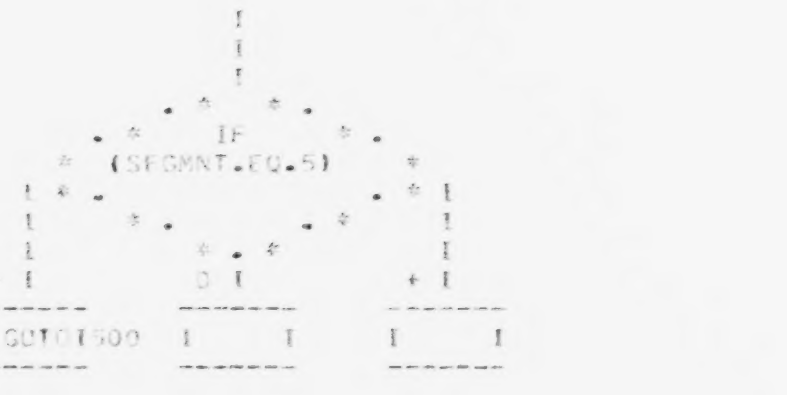

```
                CALL OPSYS('LOAD','AIMSLIST')

500             CONTINUE

                CALL RLIST(ID)
                     I
                -------
                I 100 I
                -------



900             CONTINUE

                CALL ERROR(PNAME,0,1)
                     I
                -------
                I 100 I
                -------


1000            CONTINUE

                CALL FINISH

                CALL EXIT

                END
```

```
TIME=2191

TRACEBACK FOLLOWS-   ROUTINE     ISN    REG. 14    REG. 15    REG.  0    REG.  1
                     IBCOM               92003020   00005E58   00000001   00000000
                     MAINPG
ENTRY POINT= 00001FE8
```

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SECTION II

SYSTEM INPUT

SUBPROGRAMS

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**** PROGRAM LOGIC MANUAL **** A.I.M.S. VERSION III *****

```
      SUBROUTINE HEADER

      COMMON/SYSTEM/MLESS,NDECK,NREX,NQUEST,NSTUD

      COMMON/FILES/IW1(2),IPRINT,IW2(2),IFILE,IW3,IOUTST,IW4(3),ISYS,
         IW5,ITAPE,IW6

      INTEGER CARD

      INTEGER * 2  RECORD(65,100) ,  RCORD2(65) , PTRS(50) , NOS(50)

      INTEGER * 2  LPERM,NPERM,LTEMP, NTEMP, ERRFLG

      INTEGER * 2  SRTMAP(4,400) , DELET(3) , DROP , ZERO , CHECK
         , IRECD(4) , QRECNO ,  QSTION(70)

      INTEGER RNAME(2) , EFLAG , RECD , RC2  , SNAME(2)

      DATA RNAME/'HEAD','ER'/, DELET/'DE','LE','T '/,DROP/1/, ZERO/0/

      DATA   QSTION/40*0,30*'  '/   ,SNAME/'STOR','E'/

      INTEGER * 2 NUMBER(2), LESSON, SEGMNT, TYPE , COURSE , SEQNCE ,
         SORD , SELECT , GRADES , QUESTS , RESPNS(48) , LABEL(2),QLAB(2)
         ,QPTR

      INTEGER  HEADNG(4,2) , ANSWER(2,48) , BLANK , RED , ISTART(2)  ,
        DATE(6) , DROPPD(2,2), COND(2)

      INTEGER * 2 QREX(70)

      DATA   HEADNG/'PERM','ANEN','T FI','LE','TEMP','ORAR','Y FI','LE'/

      DATA  BLANK/'    '/ , ISTART/1,401/,LABEL/'.','S.'/,QLAB/' 5','10'
      /, DROPPD/' ',' ','DELE','TED' / ,COND/'A-OK','STOP'/

      EQUIVALENCE  (LESSON ,  RCORD2(1) )  , (SEGMNT ,  RCORD2(3)  )
       , ( TYPE ,  RCORD2(4) )  , ( COURSE ,  RCORD2(5) )
       , (SEQNCE ,  RCORD2(6) ) , (SORD,  RCORD2(10) )
       , (SELECT ,  RCORD2(11) ) , (GRADES,  RCORD2(12) )
       , (QUESTS ,  RCORD2(13) ) , ( RESPNS(1) ,  RCORD2(19)  )
       , (QPTR  ,   RCORD2(8) )

***   REWIND ITAPE

***   READ(ISYS'2) LPERM, NPERM, LTEMP, NTEMP

***   READ(ISYS'3) PTRS

***   READ(ISYS'4) NOS
```

EFLAG=0

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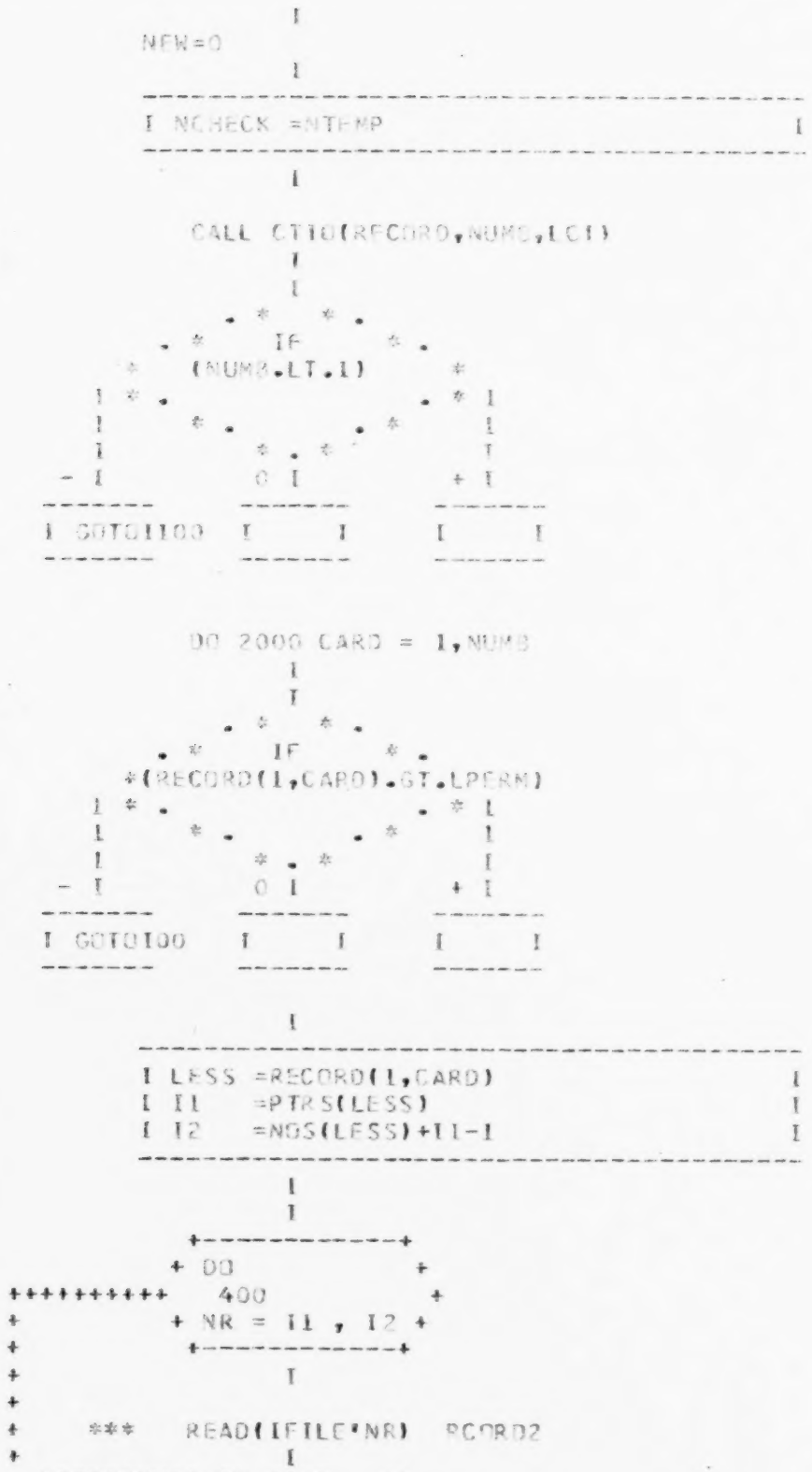

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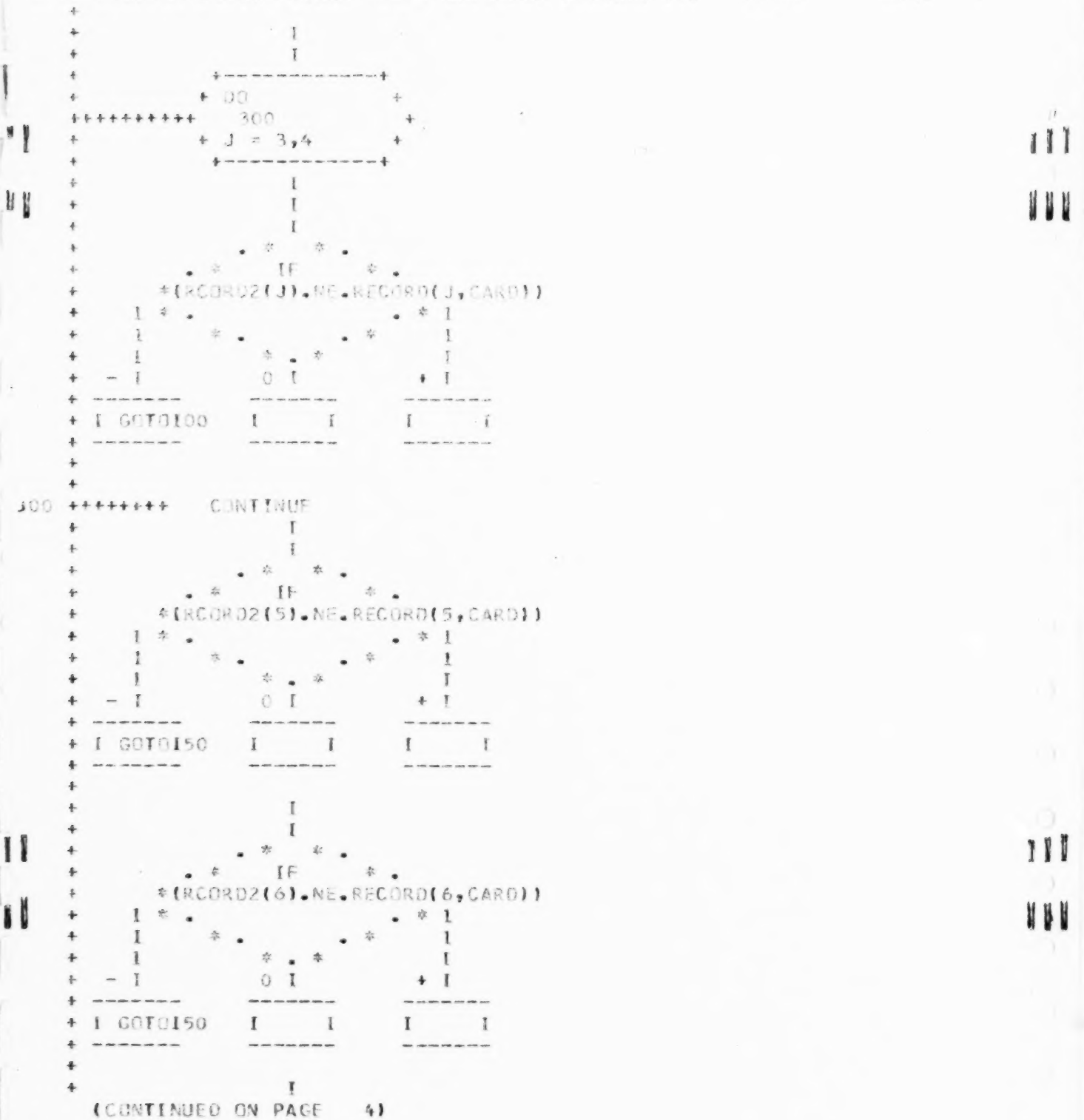

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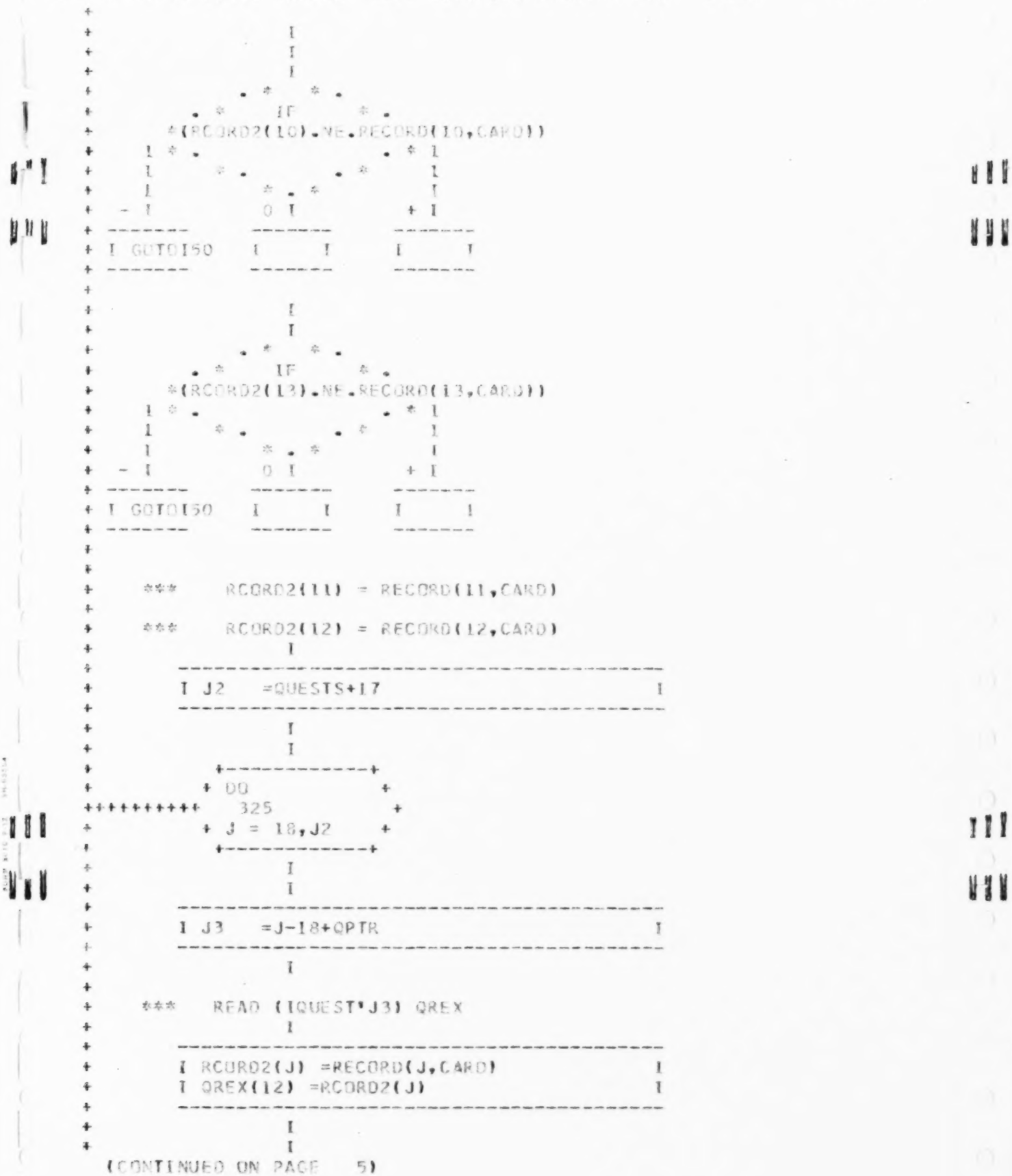

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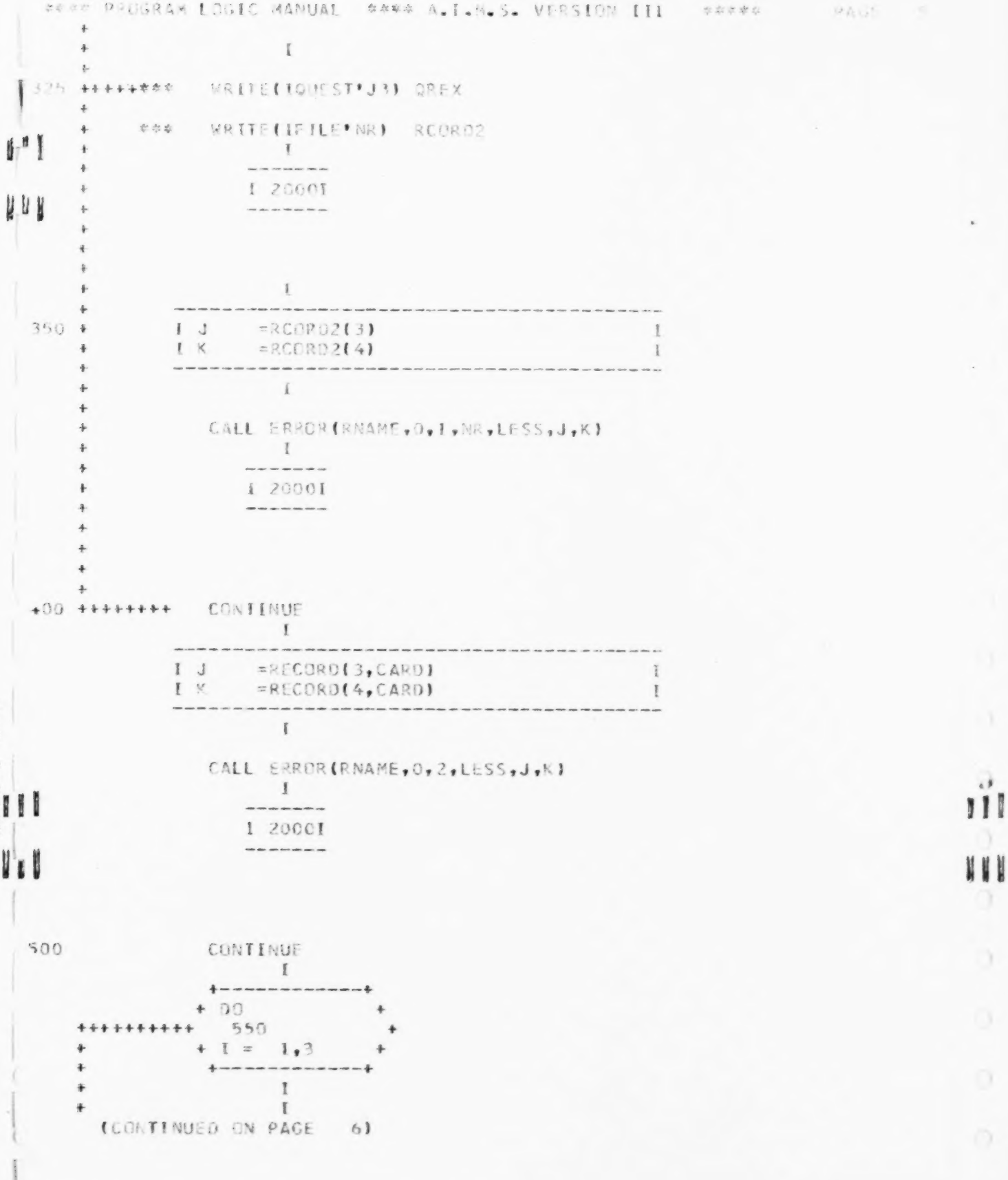

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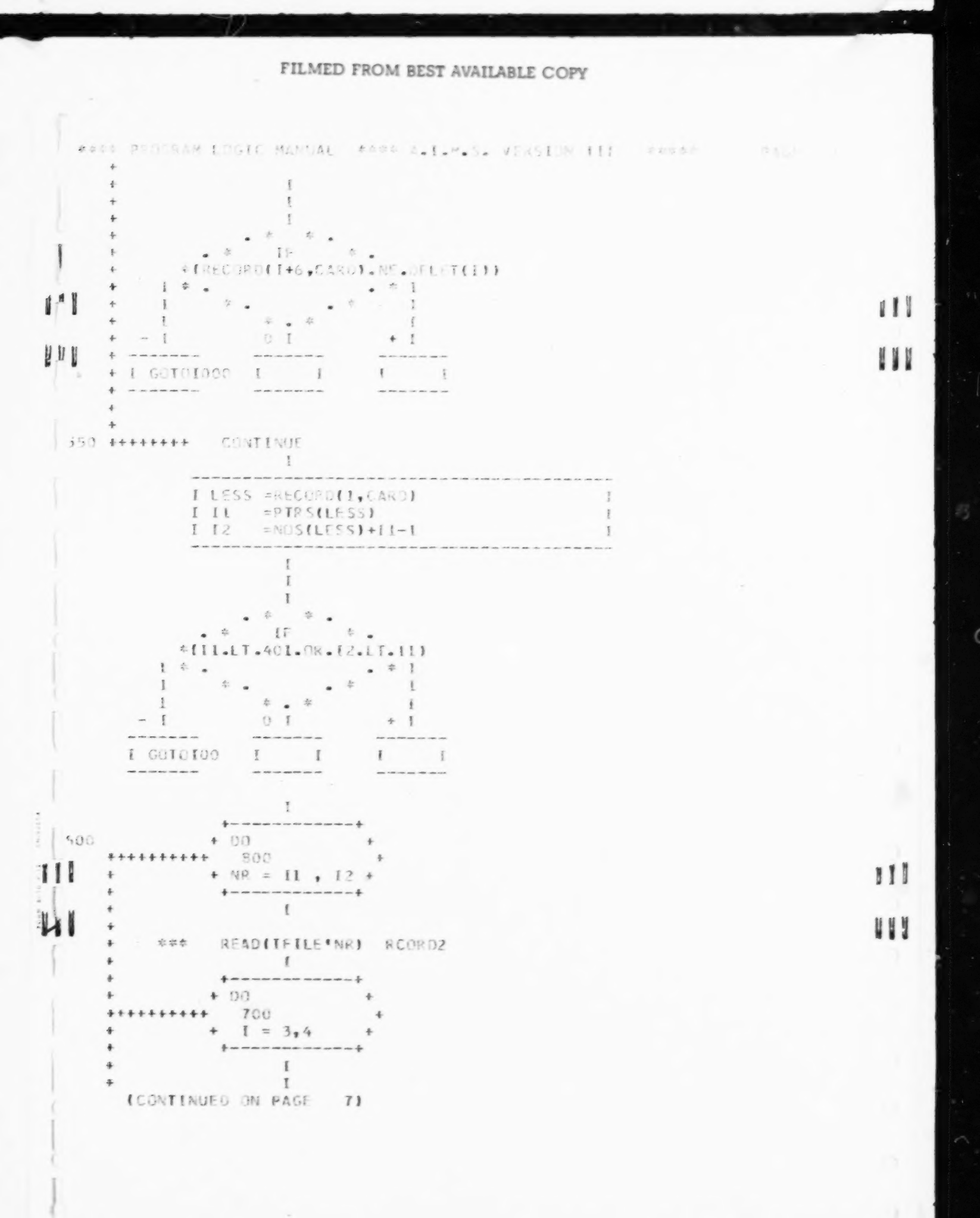

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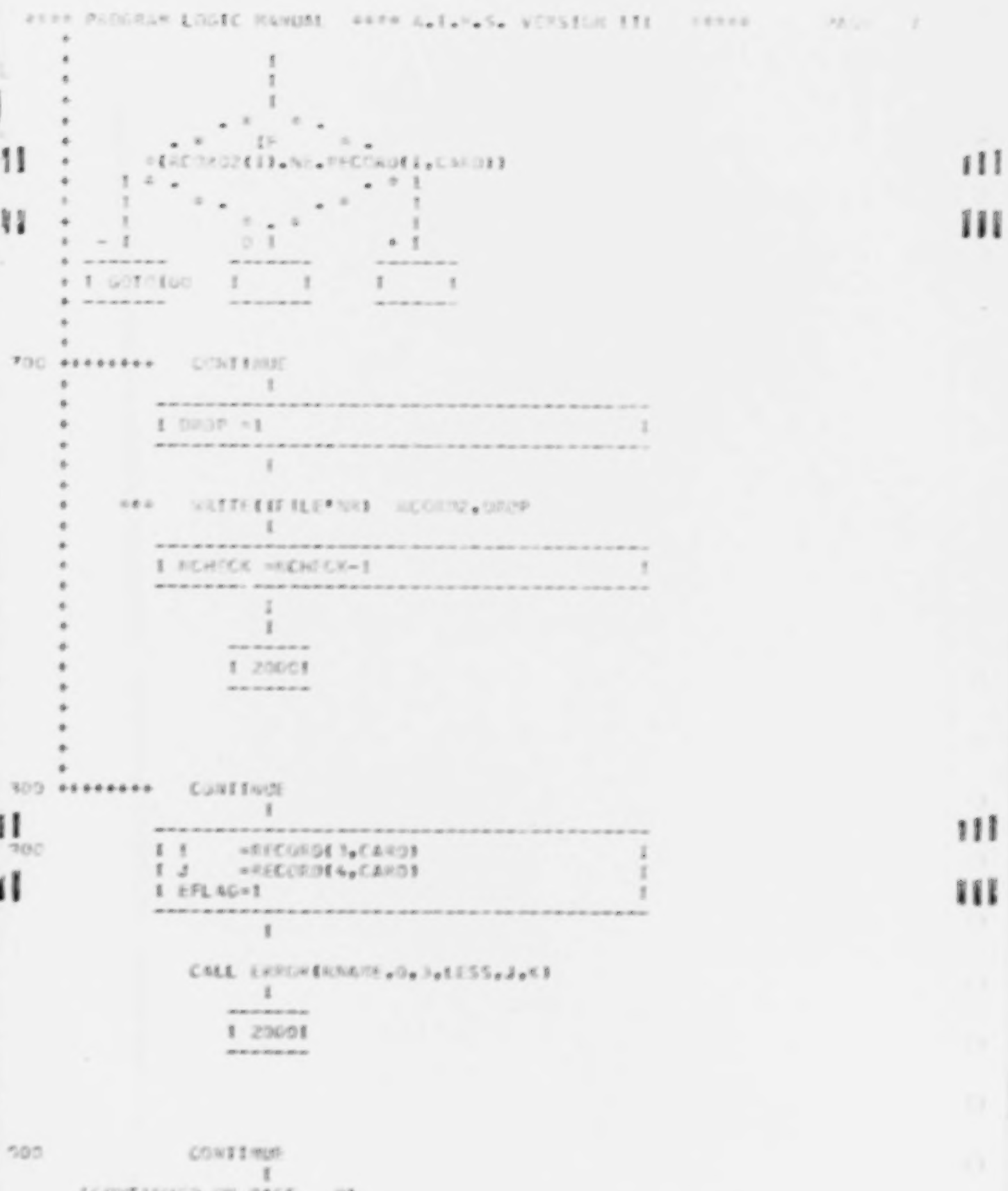

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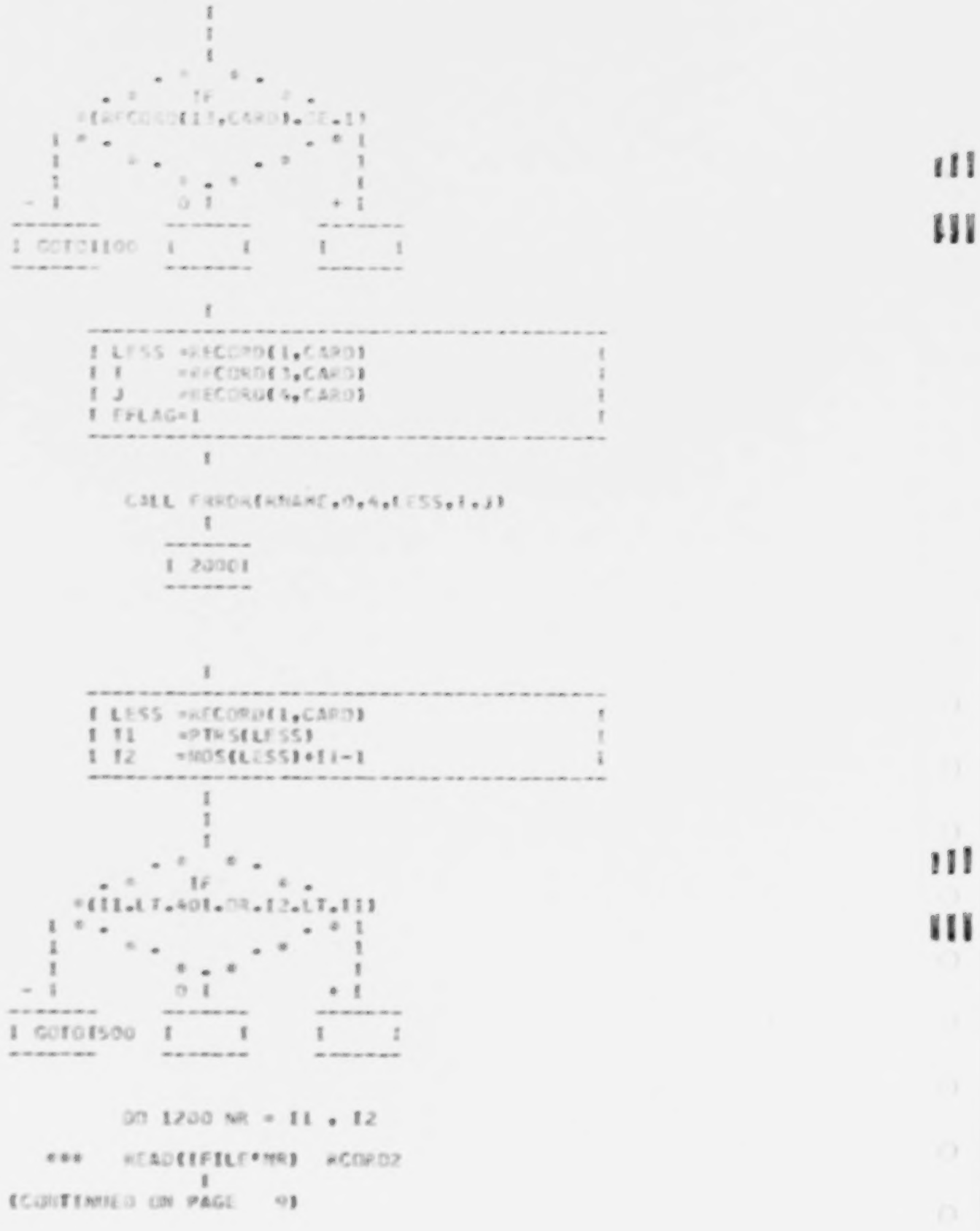

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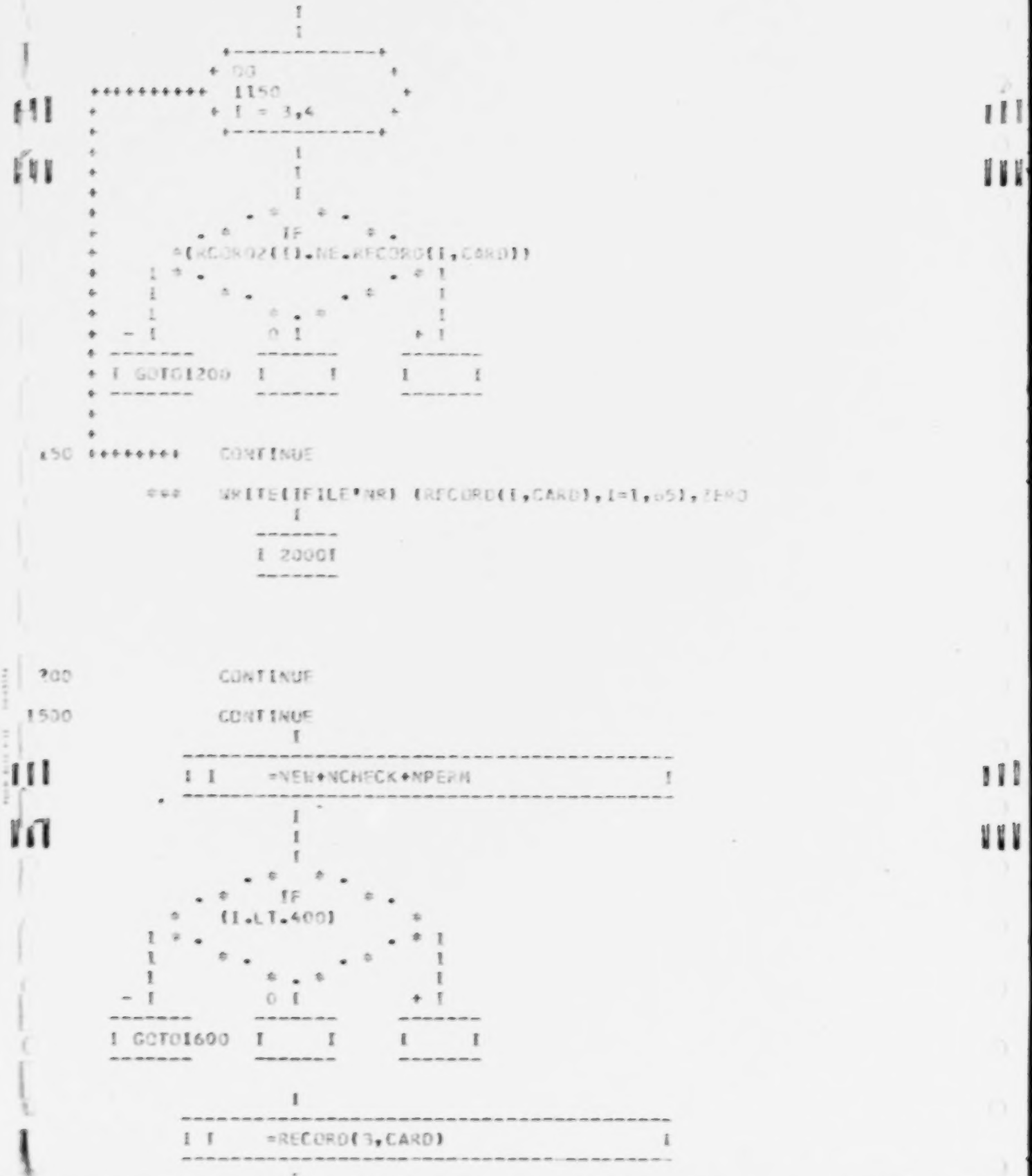

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CONTINUED ON PAGE 10


```
                    I
              J=RECORD(4,CARD)
                    I
              ---------------------------------------
              I EFLAG=1                             I
              ---------------------------------------
                    I
                 CALL ERROR(PNAME,0,S,LESS,I,J)
                    I
                 -------
                 I 2000I
                 -------


 500             CONTINUE
                    I
              ---------------------------------------
              I NEW  =NEW+1                         I
              ---------------------------------------
                    I
                 SRTMAP(1,NEW) = RECORD(1,CARD)
                 SRTMAP(2,NEW) = RECORD(3,CARD)
                 SRTMAP(3,NEW) = RECORD(4,CARD)
                 SRTMAP(4,NEW) = 0
           ***   WRITE(11TAPE) (RECORD(I,CARD),I = 1,65)
 2000            CONTINUE
                    I
                    I
                  . * * .
               . *   IF    * .
             *    (LCI.EQ.0)    *
           I * .                . * I
           I     * .          . *    I
           I         * . * .         I
         - I           0 I           + I
         -------     -------       -------
         I GOTGI00   I     I       I     I
         -------     -------       -------

                    I
```

(CONTINUED ON PAGE 11)

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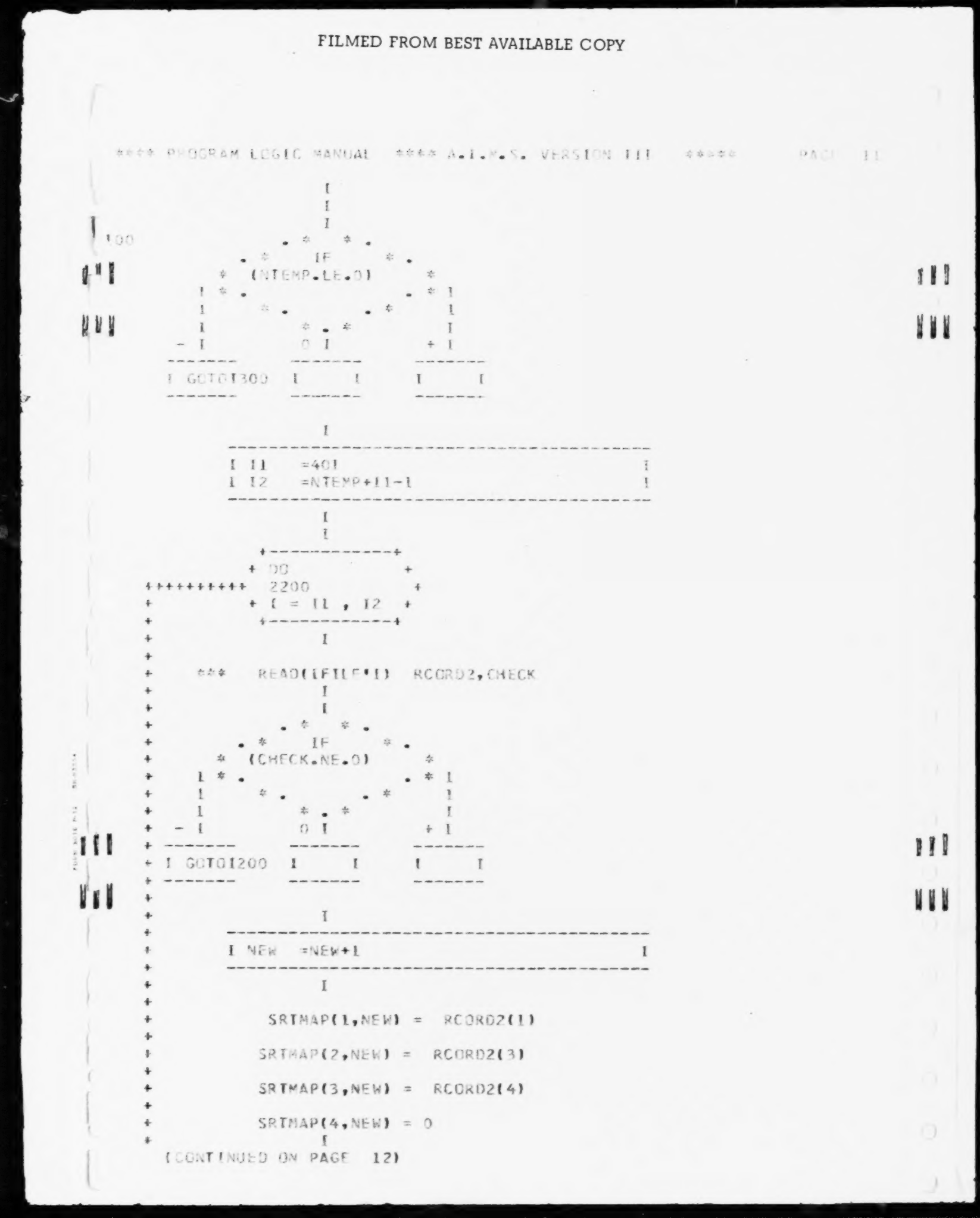

(CONTINUED ON PAGE 12)

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```
     +
     +                    I
     +
     +     ***    WRITE(ITAPE) RCORD2,CHECK
     +
200  +++++++++    CONTINUE
                       I
                       I
                  . *   * .
              . *     IF      * .
            *    (NEW.LE.0)        *
          I * .                    . * I
          I     * .            . *     I
          I         * . *              I
        - I           0 I            + I
       -------       -------        -------
       I GOTOI200    I     I        I     I
       -------       -------        -------


                  END FILE ITAPE

           ***    REWIND ITAPE

                  DO 3000 IPOS = 1, NEW
                       I
                  +-------------+
                 + DO            +
      +++++++++   2400            +
      +          + I = 1, NEW     +
      +           +-------------+
      +                 I
      +                 I
      +                 I
      +              . *   * .
      +           . *     IF      * .
      +         *(SRTMAP(4,I).NE.0) *
      +       I * .                    . * I
      +       I     * .            . *     I
      +       I         * . *              I
      +     - I           0 I            + I
      +    -------       -------        -------
      +    I GOTOI400    I     I        I     I
      +    -------       -------        -------
      +
      +                    I
      +          ------------------------------------------
      +          I IWH  =I                                 I
      +          ------------------------------------------
      +                    I
      +                    I
        (CONTINUED ON PAGE  13)
```

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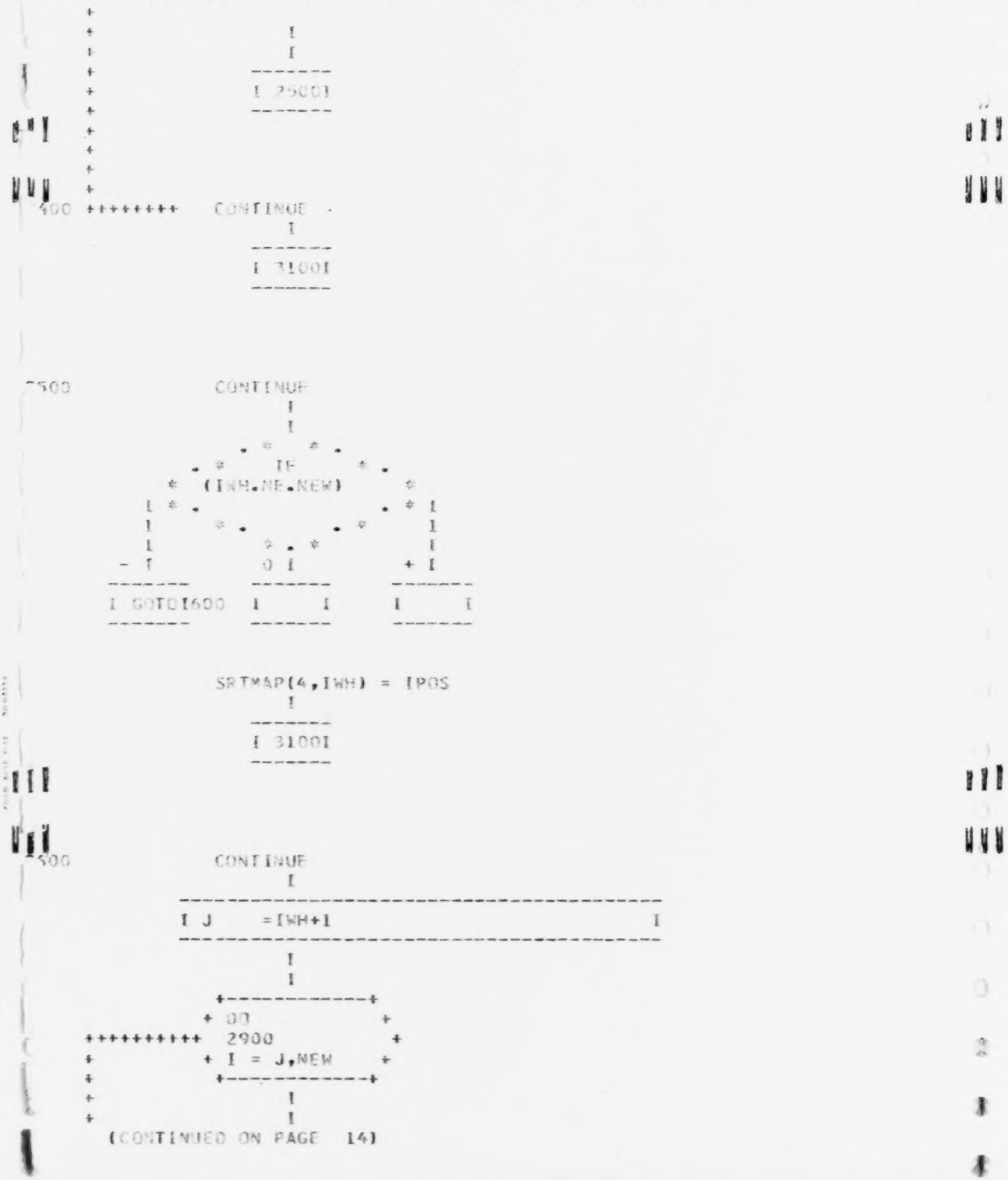

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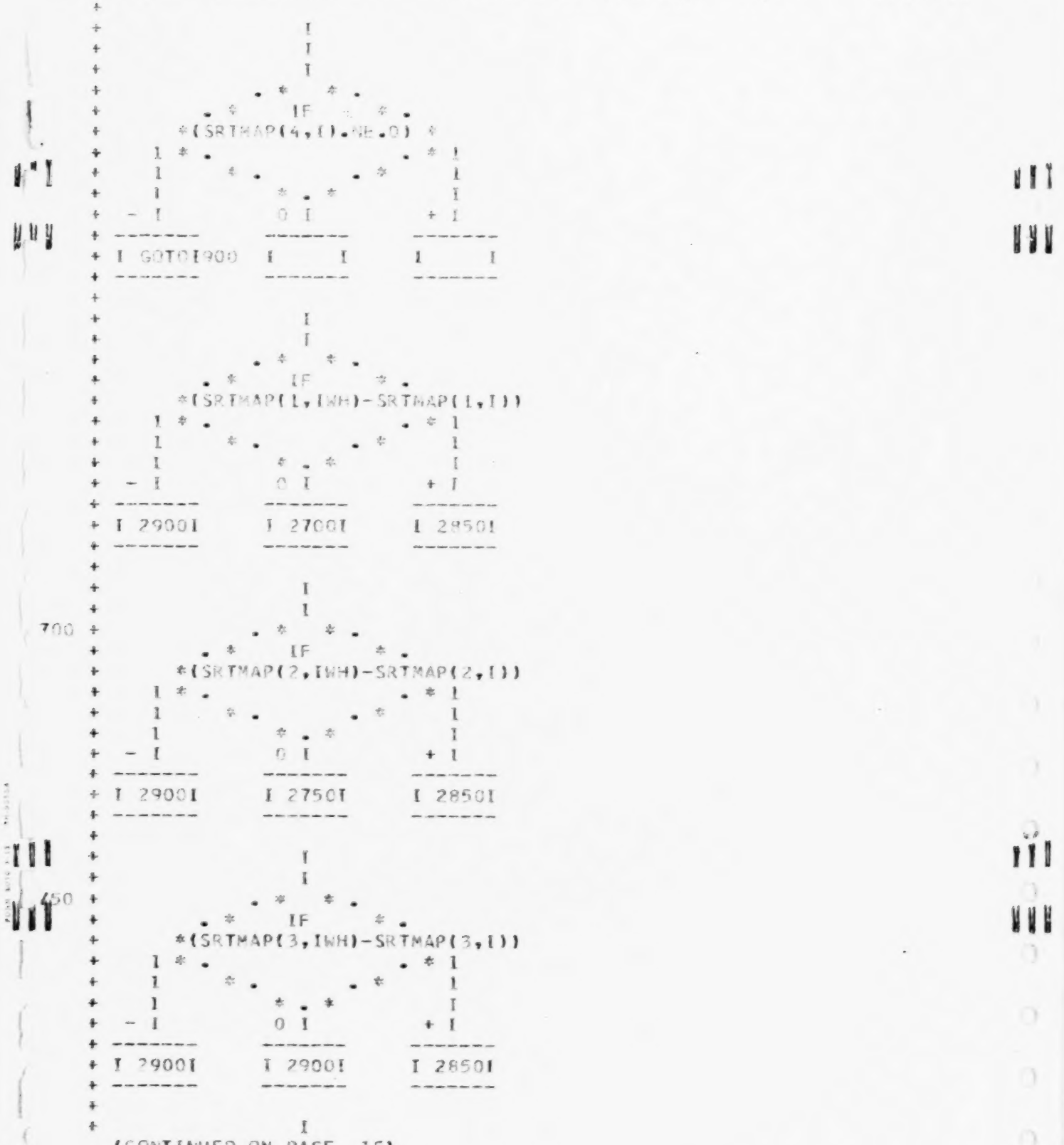

(CONTINUED ON PAGE 15)

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```
                    I
                    I
 850          CONTINUE
                    I
              ------------------------------------------
              I IWH  =I                                 I
              ------------------------------------------
                    I
                    I
 900 ++++++++ CONTINUE

              SRTMAP(4,IWH) = IPOS

 900          CONTINUE

 900          CONTINUE

       ***    REWIND ITAPE
                    I
                   +------------+
                  + DO           +
      ++++++++++   3200           +
      +           + I = 1  , NEW +
      +            +------------+
      +                  I
      +                  I
      +           ------------------------------------
      +           I J    =SRTMAP(4,I)+400            I
      +           ------------------------------------
      +                  I
      +
      +     ***   READ(ITAPE)  RCORD2
      +
 900  ++++++++    WRITE(IFILE'J)  RCORD2 , ZERO
                    I
              ------------------------------------------
 900          I LAST =LPERM                           I
              I KOUNT=0                               I
              I II   =LAST+1                          I
              ------------------------------------------
                    I
                    I
                   +------------+
                  + DO           +
      ++++++++++   3350           +
      +           + I = II , NLESS
      +            +------------+
      +                  I
      +                  I
      +           ------------------------------------
      +           I PIRS(I) =0                        I
      +           ------------------------------------
      +                  I
      +           ------------------------------------
 950  +++++++++   I NOS(I) =0                         I
              I I2   =401+NEW-1                       I
              ------------------------------------------
                    I
```

(CONTINUED ON PAGE 16)

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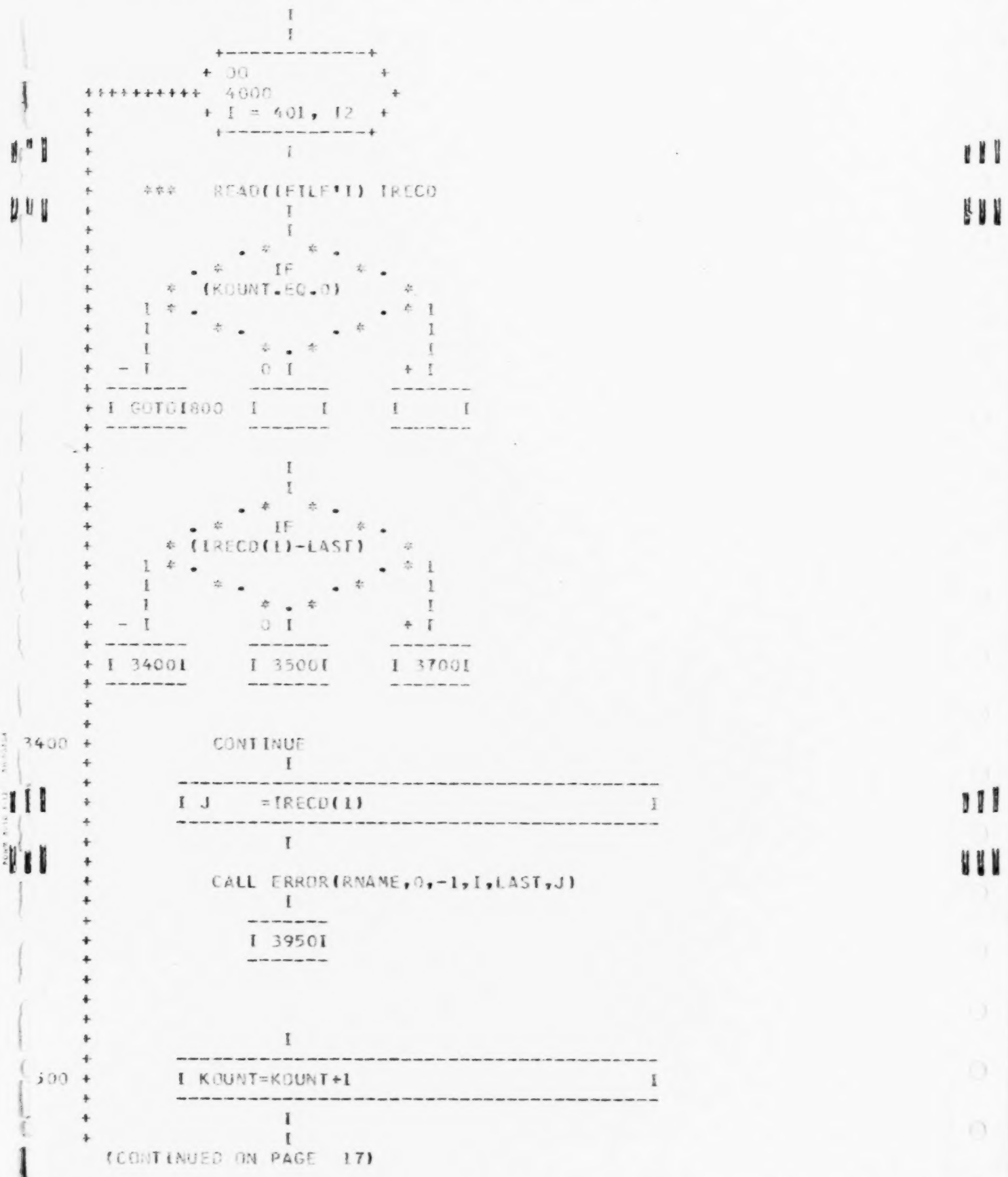

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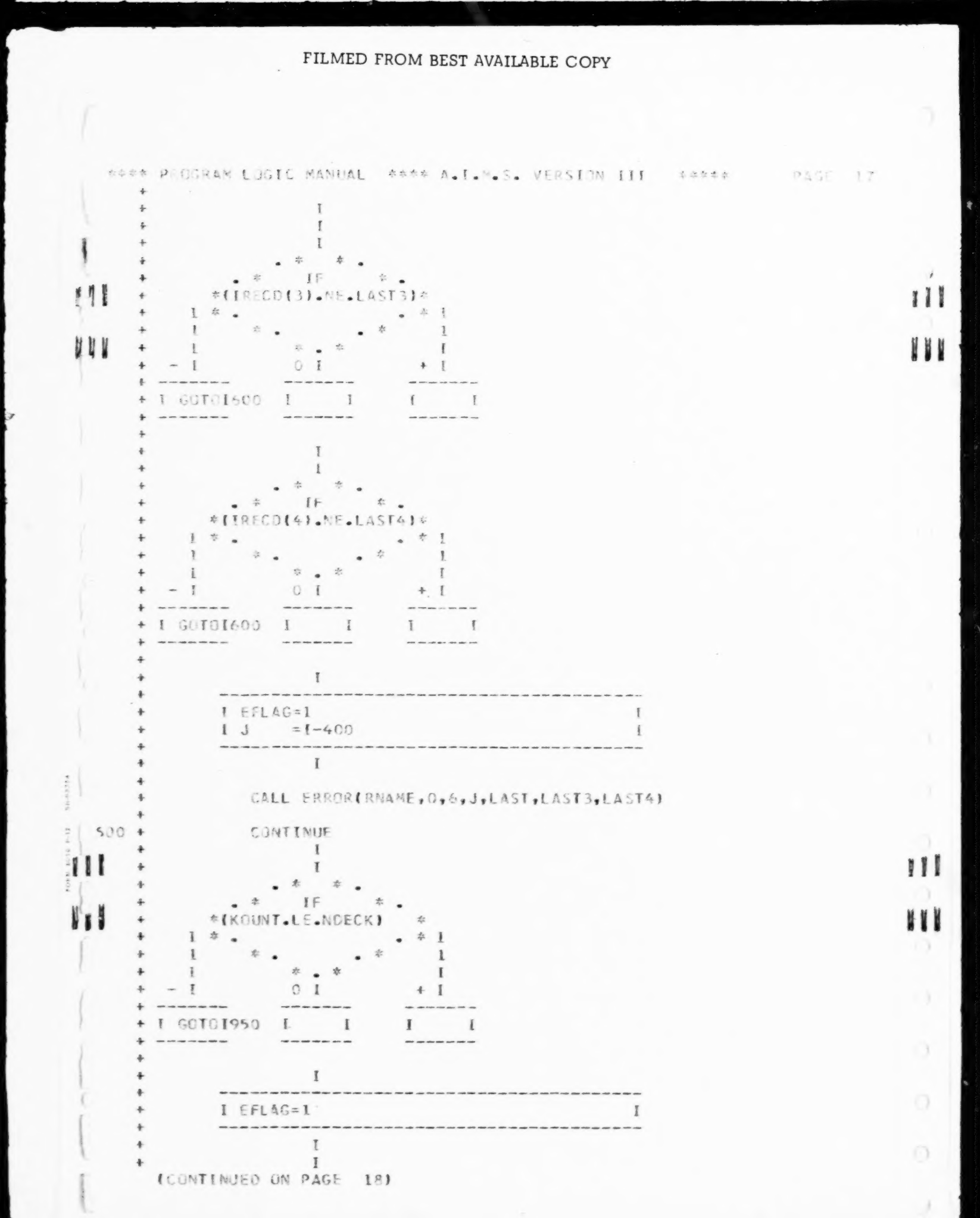

(CONTINUED ON PAGE 18)

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```
                    I
                    I
             CALL ERROR(RNAME,0,7,LAST,LAST3,LAST4,KOUNT)
                    I
                 -------
                 I 3950I
                 -------
                    I
                    I
                    I
  700       CONTINUE
                    I
          ------------------------------------------
          I NOS(LAST) =KOUNT                       I
          ------------------------------------------
                    I
                    I
  800       CONTINUE
                    I
          ------------------------------------------
          I LAST =LAST+1                           I
          ------------------------------------------
                    I
                    I
                    I
                 . *   * .
              . *     IF      * .
           *(LAST.EQ.IRECD(1))  *
        I * .                     . * I
        I     * .             . *     I
        I         * . *  .  * .       I
        I           0 1           + I
      - I           0 1           + I
     -------      -------       -------
     I GOTOI900   I     I       I     I
     -------      -------       -------
                    I
          ------------------------------------------
          I J    =IRECD(1)                         I
          I K    =I-400                            I
          I EFLAG=1                                I
          ------------------------------------------
                    I
                    I
             CALL ERROR(RNAME,0,8,K,LAST,J)
                    I
          ------------------------------------------
          I LAST =IRECD(1)                         I
          ------------------------------------------
                    I
                    I
  900       CONTINUE
                    I
        ***   PTRS(LAST) = I
                    I
          ------------------------------------------
          I KOUNT=1                                I
          ------------------------------------------
                    I
```

(CONTINUED ON PAGE 19)

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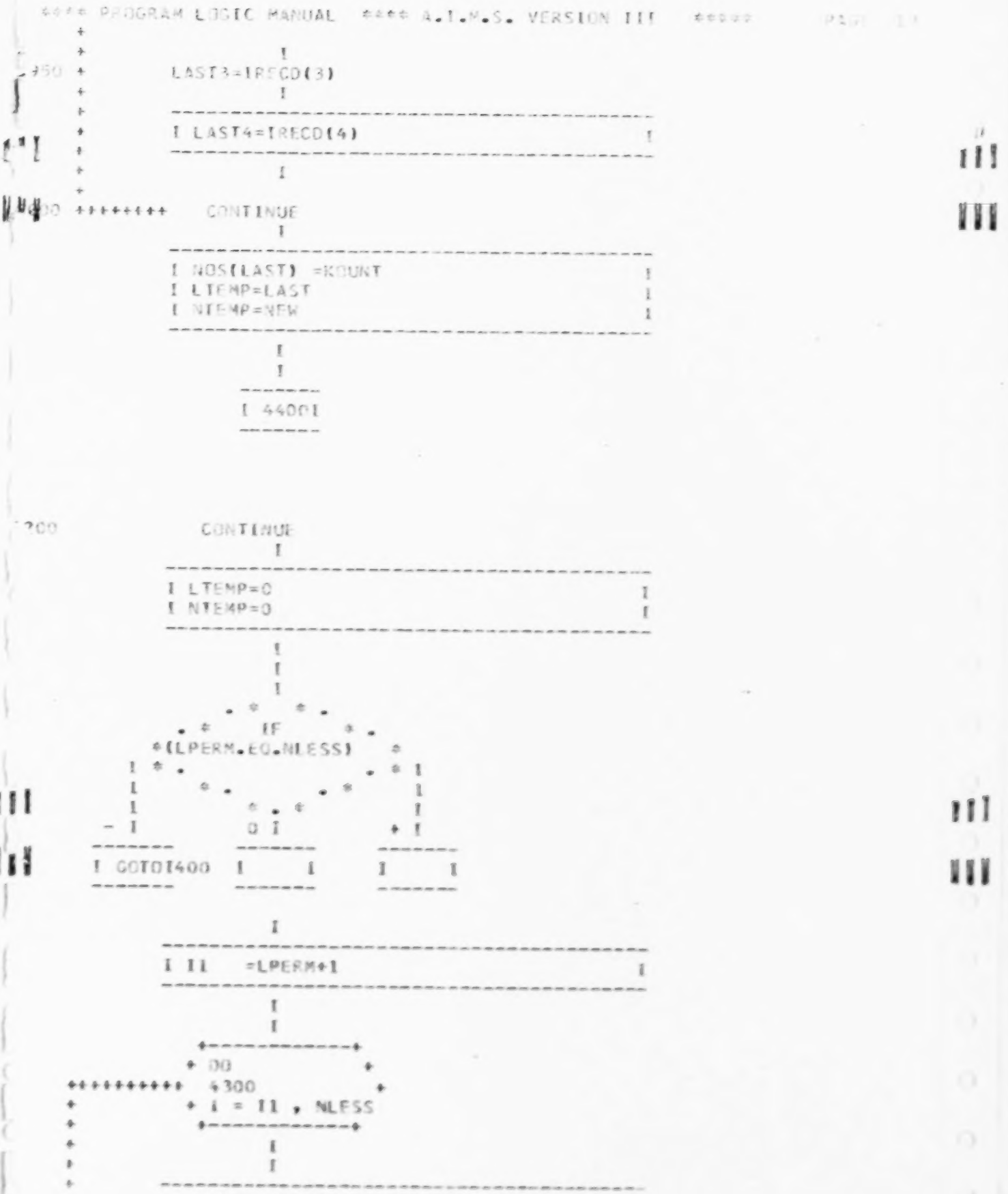

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(CONTINUED ON PAGE 20)

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```
      *
      *                    I
300   ********PIRS(I)=0
      *
400               CONTINUE
                        I
                  ------------------------------------------
                  I ERRFLG =EFLAG                          I
                  ------------------------------------------
                        I
            ***   WRITE(ISYS*2) LPERM, WPERM, LTEMP, NTEMP , ERRFLG
            ***   WRITE(ISYS*3) PIRS
            ***   WRITE(ISYS*4) NOS
500               CONTINUE
                        I
                     -------
                     I 6200I
                     -------


                  ENTRY STORE
            ***   READ(ISYS*2) LPERM, WPERM, LTEMP, NTEMP, ERRFLG
                        I
                        I
                     . * .  * .
                  . *    IF     * .
                *  (ERRFLG.EQ.0)    *
              I * .                 . * I
              I      * .        . *     I
              I          * . * .        I
            - I          0 I          * I
           -------      -------      -------
           I GOTO(600   I     I      I     I
           -------      -------      -------


                  CALL ERROR(SNAME,0,1)
                        I
                     -------
                     I 6800I
                     -------


                        I
           (CONTINUED ON PAGE  71)
```

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```
      ***   READ(ISYS'3) PTRS

      ***   READ(ISYS'4) NOS

      ***   READ(ISYS'5) QRECNO
```

```
      KOUNT=0
      LAST =LPERM
      RC2  =401+NTEMP-1
```

```
      DO 6000 RECO = 401, RC2
```

```
      NPERM=NPERM+1
```

```
      ***   READ(IFILE'RECO)  RCORD2
```

(CONTINUED ON PAGE 22)

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```
                    I
          ------------------------------------------
          I NOS(LAST) =KOUNT                       I
          ------------------------------------------
                    I
          ------------------------------------------
100       I LAST =RCORD2(1)                        I
          ------------------------------------------
                    I
        ***   PTRS(LAST) = NPERM
                    I
          ------------------------------------------
          I KOUNT=1                                I
          ------------------------------------------
                    I
                    I
                 -------
                 I 5500I
                 -------
                    I
                    I

1100              CONTINUE
                    I
          ------------------------------------------
          I KOUNT=KOUNT+1                          I
          ------------------------------------------
                    I

1500              CONTINUE
                    I
          ------------------------------------------
          I IQ2  =RCORD2(13)                       I
          I QSTION(1) =RCORD2(1)                   I
          I QSTION(2) =RCORD2(3)                   I
          I QSTION(3) =RCORD2(4)                   I
          I QSTION(4) =RCORD2(5)                   I
          ------------------------------------------
                    I
```

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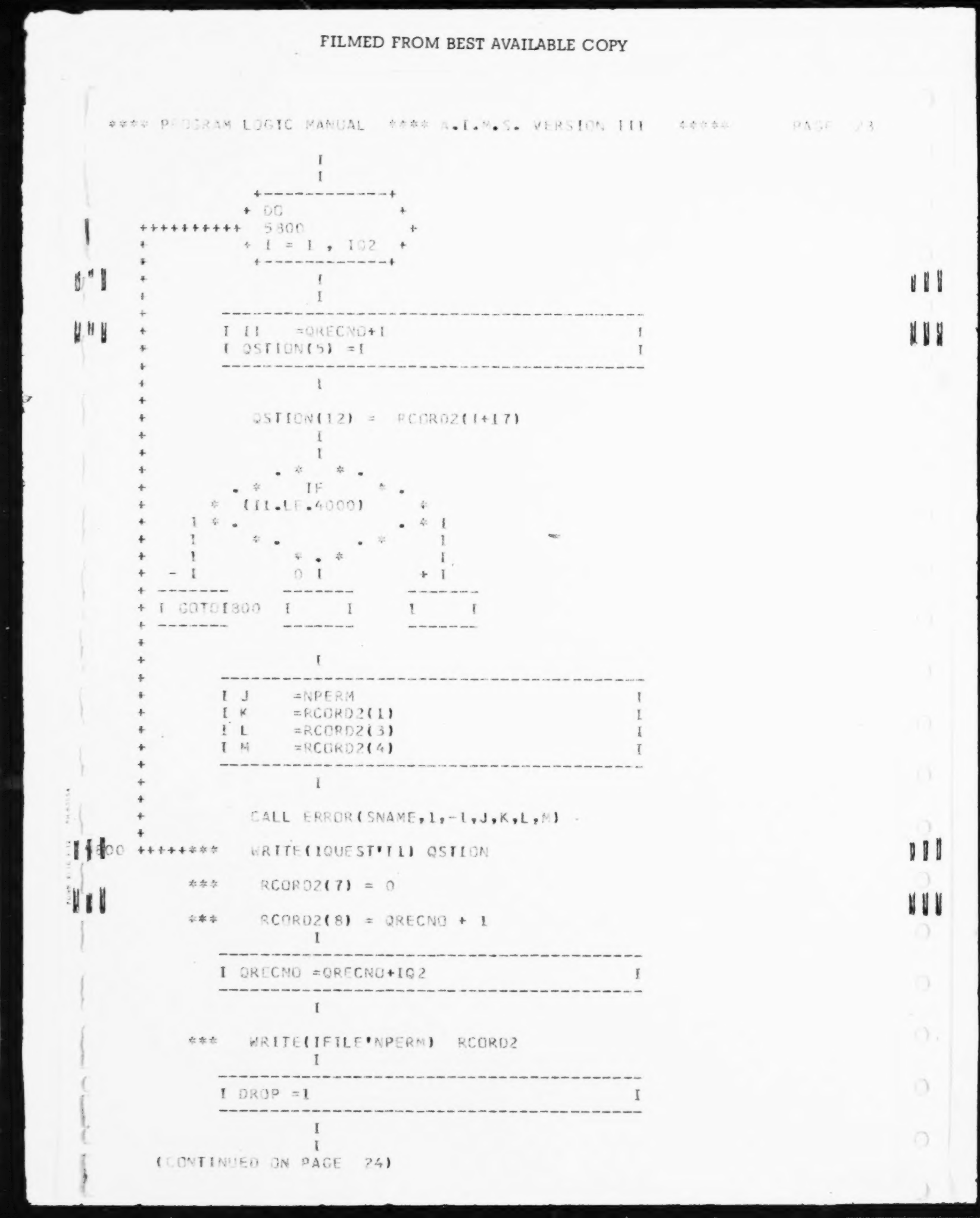

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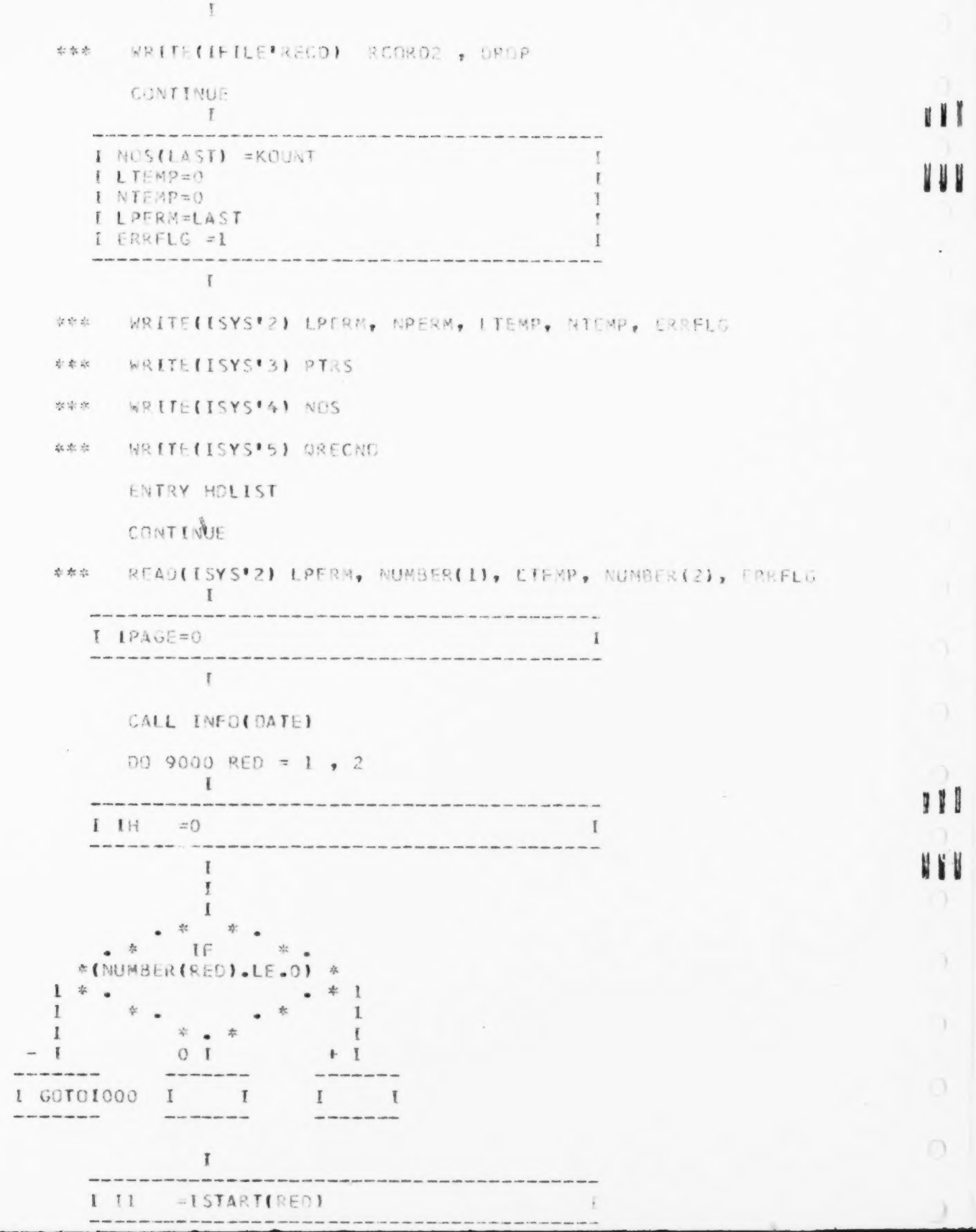

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(CONTINUED ON PAGE 25)


```
                I
          I2=IL-1+NUMBER(RED)

             DO 8000 IRX = IL, I2
                I
                I
              . *   * .
            . *    IF     * .
          *     (IH.GT.0)      *
        ! * .                  . * !
        !     * .          . *     !
        !         * .  * .         !
      - !           0 I           + !
        -------      -------      -------
        ! GOTO1000  !     !      !     !
        -------      -------      -------
                I
          ---------------------------------------
          ! IPAGE=IPAGE+1                       !
          ---------------------------------------
                I
      ***   WRITE(IPRINT,6999) DATE ,(HEADNG(J,RED),J=1,4),IPAG=
                I
          ---------------------------------------
          ! IH   =4                             !
          ---------------------------------------
                I
.000            CONTINUE
                I
          ---------------------------------------
          ! IH   =IH-1                          !
          ---------------------------------------
                I
      ***   READ(IFILE'IRX)  RCORD2 , DROP
                I
               +------------+
             + DO           +
++++++++++   7500            +
+            + I = 1 , QUESTS
+             +------------+
+                I
+
7500 ++++++++   CALL LSTCDE(RESPNS(I),ANSWER(1,I))
                I
          ---------------------------------------
          ! J2   =IRX-IL+1                      !
          ! J3   =SORD+I                        !
          ! J4   =DROP+I                        !
          ---------------------------------------
                I
      ***   WRITE (IPRINT,7999) COURSE , LESSON , SEGMNT , TYPE ,
            SEQNCE , LABEL(SEQNCE) , J2 , QUESTS  , QLAB(J3) , GRADES
            , SELECT , (DROPPD(J,J4),J=1,2)
                I
```

(CONTINUED ON PAGE 26)

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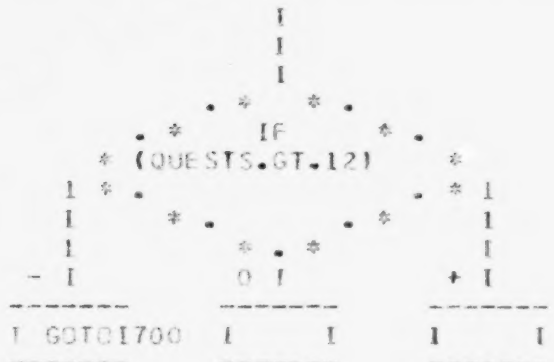
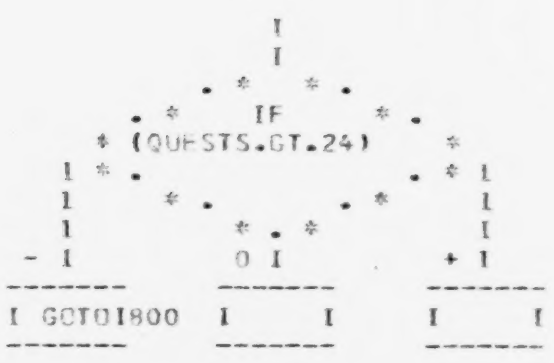



```
***   WRITE(IPRINT,8001) (J,J=1,QUESTS)
***   WRITE (IPRINT,8002) ((ANSWER(J,K),J=1,2),K=1,QUESTS)
***   WRITE (IPRINT,8003)
***   WRITE (IPRINT,8003)
***   WRITE (IPRINT,8003)
***   WRITE(IPRINT,8003)
```



7700


```
***  WRITE (IPRINT,8001) (J,J=1,12)
***   WRITE (IPRINT,8002) ((ANSWER (J,K),J=1,2),K=1,12)
***   WRITE (IPRINT,8001) (J,J=13,QUESTS)
***   WRITE(IPRINT,8002) ((ANSWER(J,K),J=1,2),K=13, QUESTS)
```

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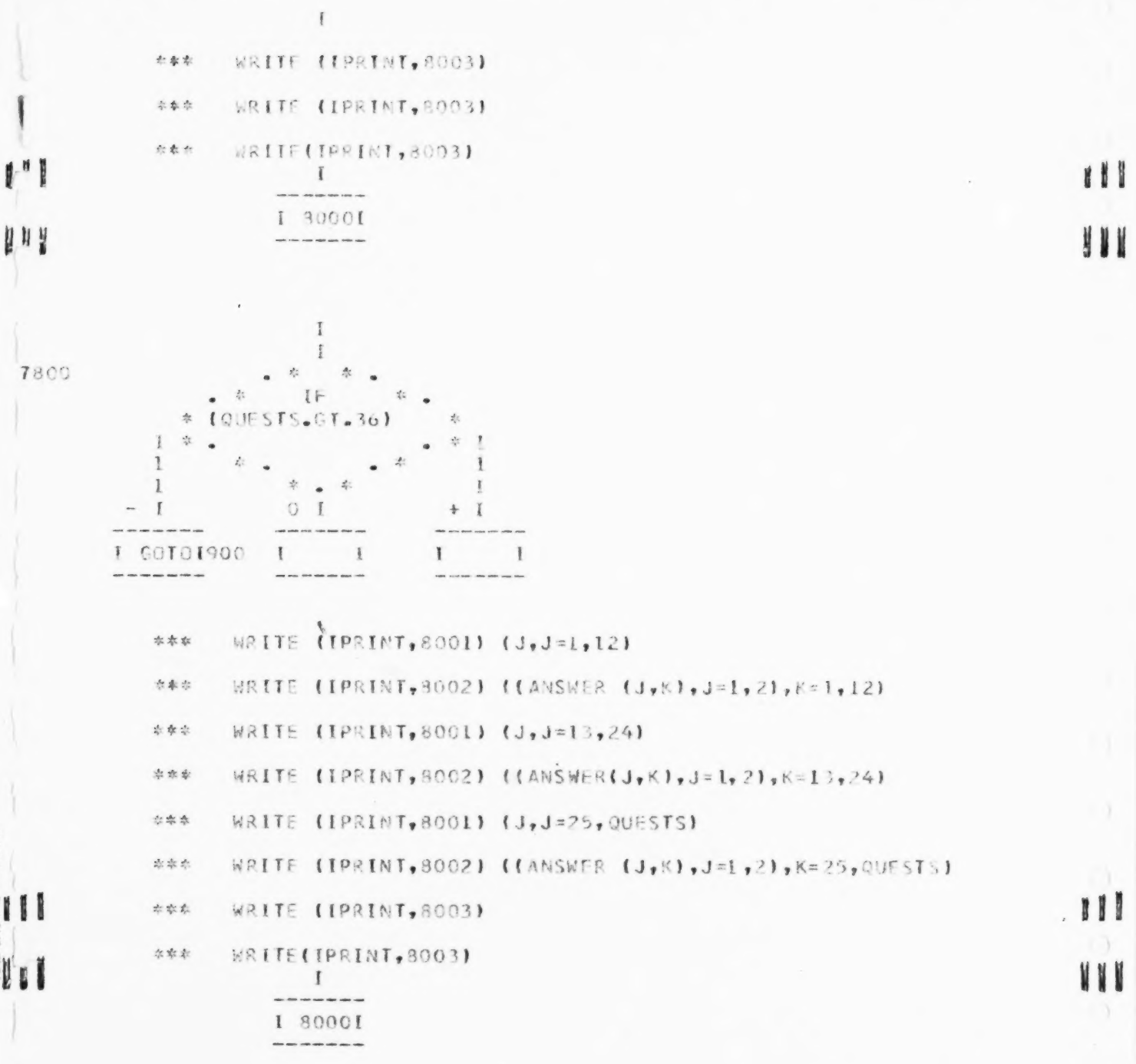

900 CONTINUE

```
      WRITE (IPRINT,8001) (J,J=1,12)
      WRITE (IPRINT,8002) ((ANSWER(J,K),J=1,2),K=1,12)
```

(CONTINUED ON PAGE 28)

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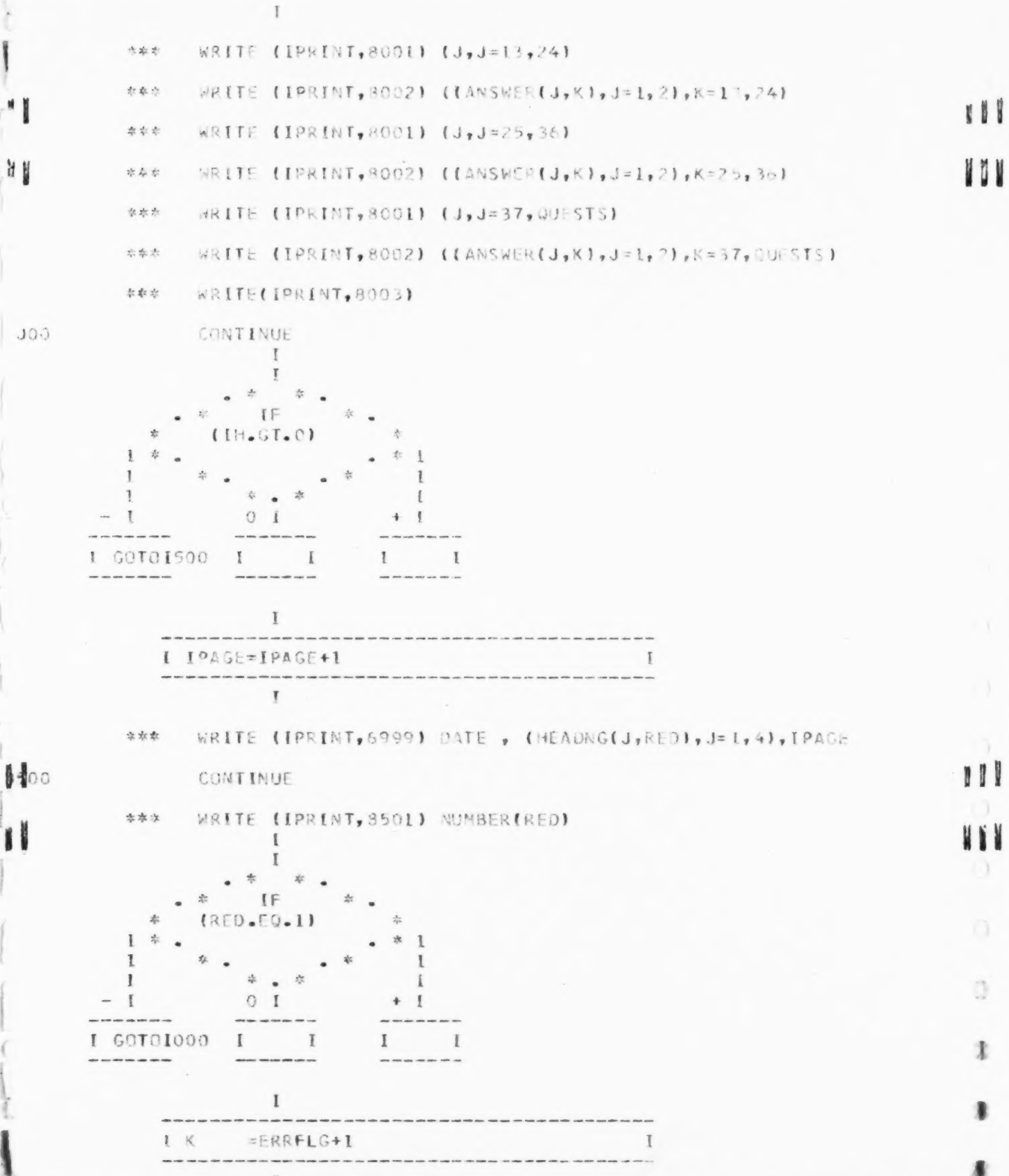

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(CONTINUED ON PAGE 29)


```
                    I
      ***   WRITE ( IPRINT,8999) COND(K)
1000          CONTINUE
      ***   RETURN
 999          FORMAT(1H1   ,  7X , '***  ','AIMS COURSE DESRIPTION' ,
              '  ***' ,    50X    , 'JOB' , 2X , 2A4  ,  2X ,2A4  ,
                1X  , 2A4      /   13X ,  4A4    , 61X   , 'PAGE' ,
               I4  /  / )
7999          FORMAT( 10X , 'COURSE' , 1X ,  I2 ,   11X  , 'LESSON', 1X  ,
              I2 ,  11X ,  'SEGMENT', 1X   ,  I2  , 10X  , 'TYPE' ,  1X  ,
              I1 ,   4X ,  'CONSISTS OF' ,  I2  ,  1X  ,  'CARD'   ,  A2 ,
              5X ,  'RECORD' , I4  /
              10X,  'THERE ARE',  I3 , 1X , 'QUESTIONS, EACH OF UP TO'   ,
              1X,  A2 , 1X  ,'ANSWERS.', I4 , 1X , 'WILL BE GRADED.'  ,
              2X , 'THERE ARE' ,  I4  ,  1X ,'POSSIBLE SELECTIONS.'  , 2X ,
               2A4   )
 501          FORMAT( 11(/)  ,  13X    , 'THERE ARE' , I4   ,  1X,
              'RECORDS IN THIS FILE'  )
 001          FORMAT(3X,11(I2,9X),I2)
 002          FORMAT(3X,11(2A4,3X),2A4)
 003          FORMAT(/)
 999          FORMAT( 13X , 'THE CONDITION IS' , 1X , A4)
              END
              SUBROUTINE CTIO(RECD,NUM,LCI)
              COMMON/FILES/IW1(12),IH , IW2(2)
              INTEGER * 2 RECD(65,100)
      ***REWIND IH
                    I
          ------------------------------------------
          I LCI  =1                                 I
          I NUM  =0                                 I
          ------------------------------------------
                    I
                    I
                +---------+
               + DO       +
     +++++++++   500        +
     +         + I = 1,100  +
     +          +---------+
     +               I
     +               I
     +       ------------------------------------------
     +       I READ(IH,END =1000)(RECD(L,I),L=1,65)  I
     +       ------------------------------------------
     +               I
```

(CONTINUED ON PAGE 30)

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```
     +                    I
     +          NUM=1
     +
 500 ++++++++    CONTINUE
                      I
                ----------------------------------------
                I LCI  =0                               I
                ----------------------------------------
                      I
 1000               CONTINUE

            ***REWIND IN

            ***     RETURN

                    END

                SUBROUTINE INPUT(INDEV)

                COMMON/SYSTEM/NLESS,NDECK,NREX,NQUEST,NSTUD

                COMMON/FILES/IW1(2),IPRINT,IW2(5),IFILE,IW3(2),ISYS,IW4(3)

                INTEGER * 2 NINFIL,NINCRS

                INTEGER * 2 NAME(13),IDNO(5),SATM,SATV,AVR,RANK,ALGE,GEOM,TRIG,
                 ALGI,CALC,PHYS,IQ,READ,COMENT(6), COURSE , CAPIN , RECORD(65)
                  , CHEM ,NAVRNK , MTHACH , STUDNO  , SECOND(65)

                EQUIVALENCE (COURSE,RECORD(5)) , (NAME(1),RECORD(6))     ,
                 (IDNO(1),RECORD(19)) , (CAPIN,RECORD(25)) , (SATM,RECORD(29))    ,
                 (SATV,RECORD(30)) , (AVR,RECORD(31)) , (RANK,RECORD(32))        ,
                 (ALGE,RECORD(33)) , (GEOM,RECORD(34)) , (TRIG,RECORD(35))       ,
                 (ALGI,RECORD(36)) , (CALC,RECORD(37)) , (PHYS,RECORD(38))       ,
                 (IQ,RECORD(39)) , (READ,RECORD(40)) ,  (NAVRNK,RECORD(41))      ,
                 (COMENT(1),RECORD(42)) , (MTHACH ,RECORD(39) ) ,(CHEM,RECORD(38))
                    , (STUDNO, RECORD(2) )

                DATA RECORD/41*0 , 14 * ' ' ,  10 * 0 /

                DIMENSION NERR(2)

                DATA NERR/'INPU','T'/

                INTEGER DNAM(2)

                DATA DNAM/'DROP',' '/

                INTEGER * 2 DATE(12) , STUDNM(13),DROPFG

                EQUIVALENCE (DROPFG,RECORD(24))

                INTEGER * 2 BLANK

                DATA BLANK/' '/
                      I
```

(CONTINUED ON PAGE 31)

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```
                    I
              INTEGER  * 2 DATIN(4),DATOUT(4)
              EQUIVALENCE (DATIN(1) , RECORD(48)) , ( DATOUT(1), RECORD(52) )
              INTEGER DROPD(2)
              DATA DROPD/'  ','YES'/
                    I
              ----------------------------------------
              I NOS  =0                              I
              ----------------------------------------
                    I
           ***READ(ISYS'1) NINFIL,NINCRS
              CALL INFO(DATE)
  200         CONTINUE
                    I
                  +------------+
                 + DO           +
       ++++++++++    10          +
       +         + I = 1,41      +
       +          +------------+
       +               I
       +               I
       +     ----------------------------------------
    10 ++++++++I RECORD(I) =0                        I
              ----------------------------------------
                    I
                    I
                  +------------+
                 + DO           +
       ++++++++++    20          +
       +         + I = 42,55     +
       +          +------------+
       +               I
       +               I
       +     ----------------------------------------
    20 ++++++++I RECORD(I) =BLANK                    I
              ----------------------------------------
                    I
                    I
                  +------------+
                 + DO           +
       ++++++++++    30          +
       +         + I = 56,65     +
       +          +------------+
       +               I
       +               I
       +     ----------------------------------------
    30 ++++++++I RECORD(I) =0                        I
              ----------------------------------------
                    I
                    I
```

(CONTINUED ON PAGE 32)

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```
                    I
        *** READ(INDEV,201,END=2800) NAME,IDNO,SATM,SATV,AVR,RANK,ALGE,GEOM,
            TRIG,ALGI,CALC,PHYS,IQ,READ,COMENT,COURSE,STUDNO
201         FORMAT(12A2,A1,  4A2,A1, I3 , I3 ,  I2 , I1 , I2 , I2 , I2 , I2 ,
             I2 , I2  ,  I3 ,  I2 , 3X  ,  6A2  ,  I2  ,  I3 )
                    I
             ---------------------------------------------
             I NOS  =NOS+1                               I
             ---------------------------------------------
                    !
                    !
                    I
                 . *   * .
              . *    IF     * .
            *  (STUDNO.EQ.0)    *
         1 * .                  . * 1
           I     * .          . *    I
           I        * .    . *       I
           I           * . *          I
        - I            0 I           + I
       -------        -------       -------
       I GOTO199      I     I       I     I
       -------        -------       -------

                    I
                    I
                 . *   * .
              . *    IF     * .
            *(STUDNO.GE.1.AND.STUDNO.LE.MINFIL)
         1 * .                  . * 1
           I     * .          . *    I
           I        * .    . *       I
           I           * . *          I
        - I            0 I           + I
       -------        -------       -------
       I GOTO175      I     I       I     I
       -------        -------       -------

                    I
             ---------------------------------------------
             I I    =STUDNO                              I
             ---------------------------------------------
                    I
             CALL ERROR(NERR,0,1,NOS,I)
                    I
                  -------
                  I 200 I
                  -------


275          ***READ(IFILE'STUDNO) SECOND
                    I
```

(CONTINUED ON PAGE 33)

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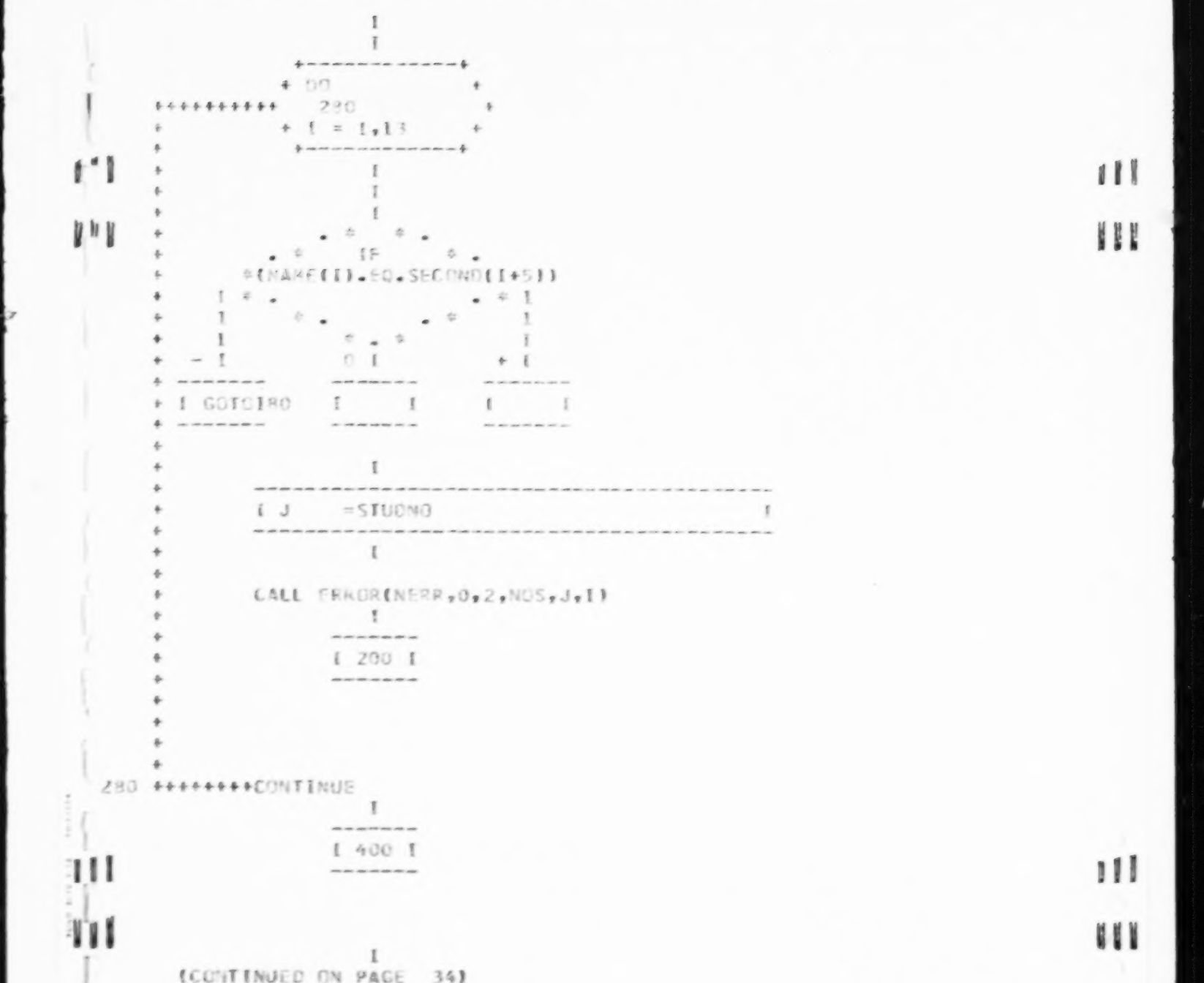

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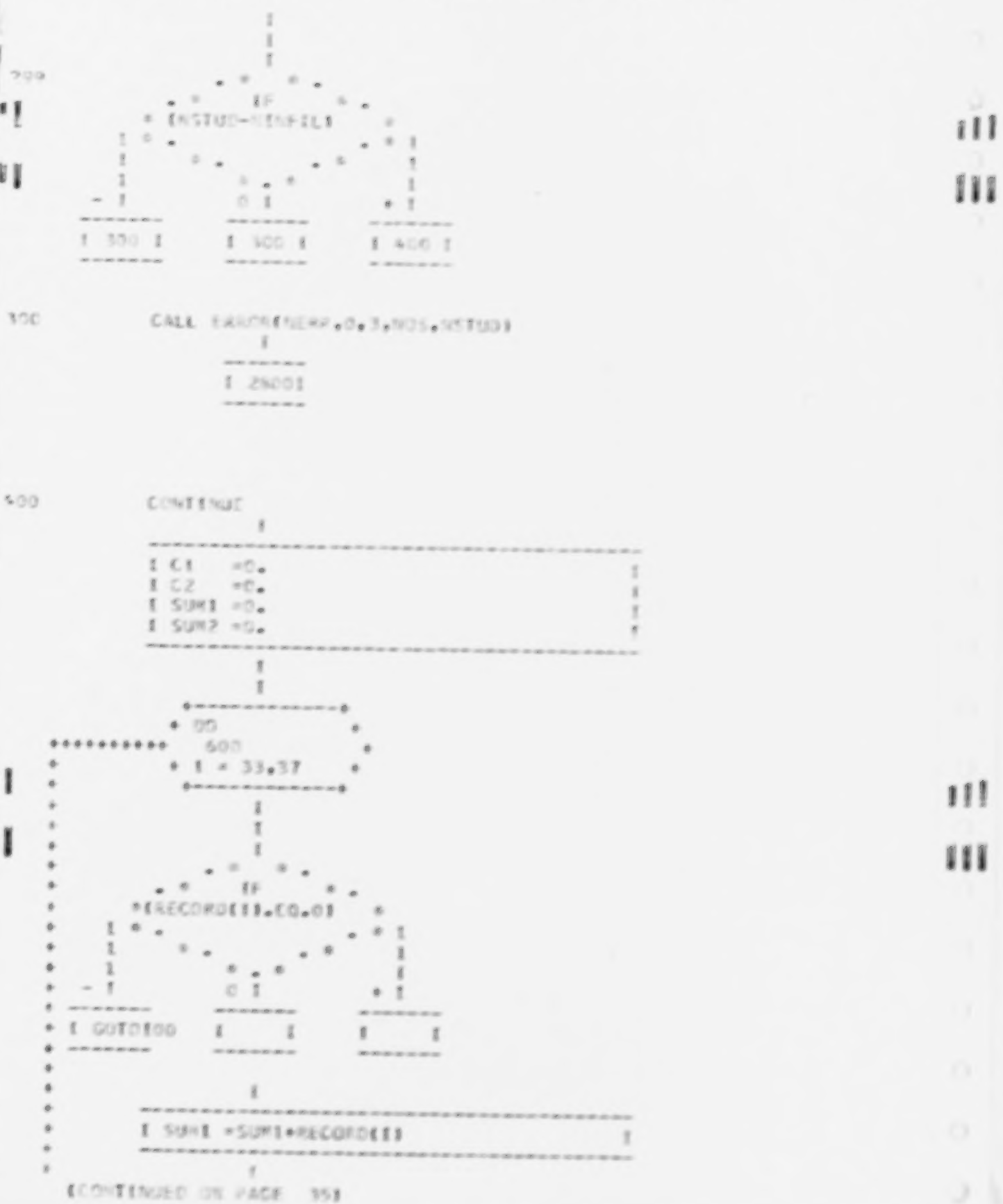

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```
                C1=C1+1.
600 ********CONTINUE
                IF
            (SATH.EQ.0)
        -  0        +
        ------      ------      ------
        GOTO1000    (           )
        ------      ------      ------

400     CONTINUE
        ------------------------------------------------
        C2   =C2+1.
        SUM2 =SUM2+(SATH-200.)/6.
        ------------------------------------------------

700     CONTINUE
                IF
            (SATV.EQ.0)
        -  0        +
        ------      ------      ------
        GOTO1200    (           )
        ------      ------      ------

        ------------------------------------------------
        C2   =C2+1.
        SUM2 =SUM2+(SATV-200.)/6.
        ------------------------------------------------

800     CONTINUE
```

(CONTINUED ON PAGE 36)

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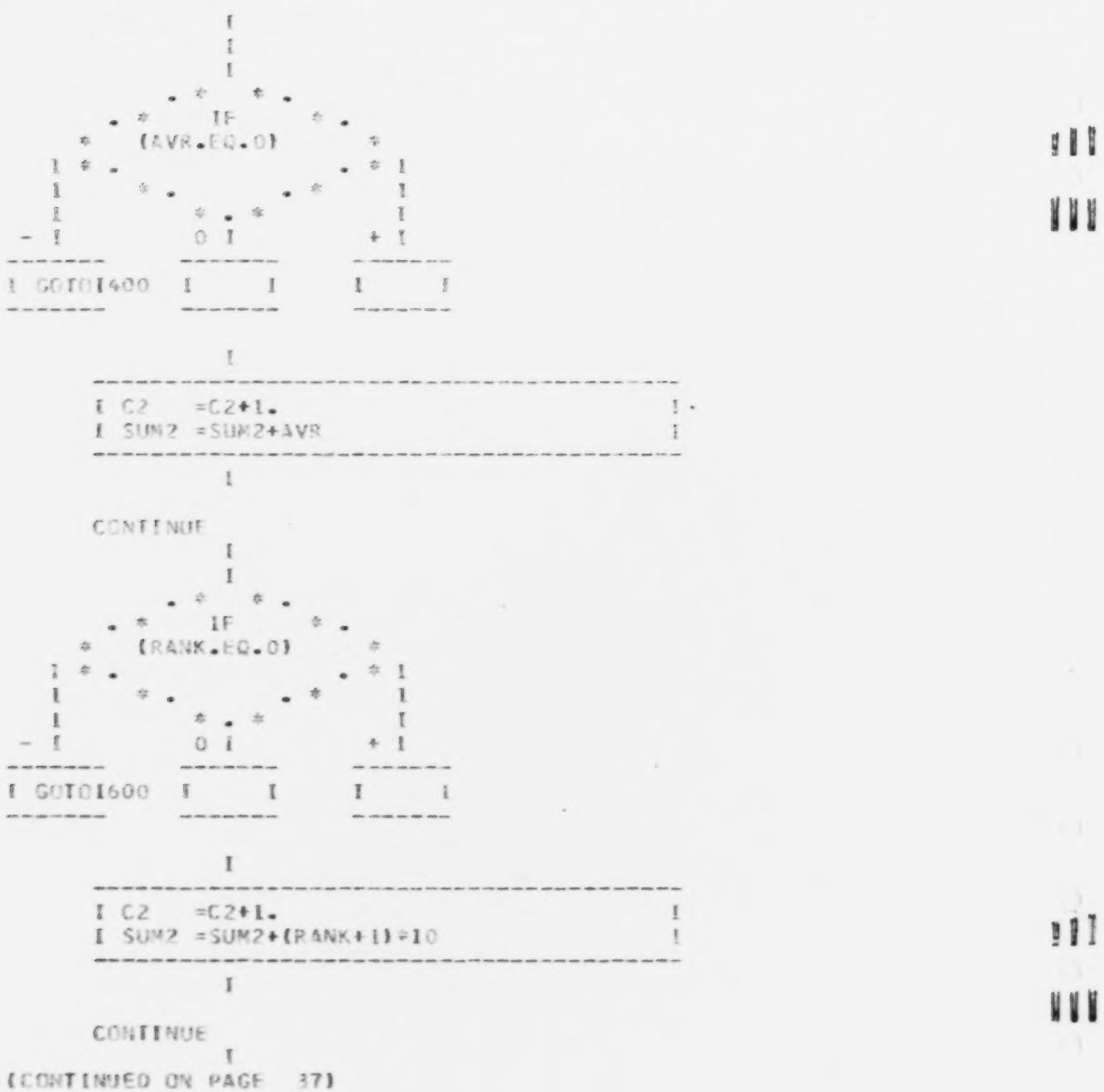

(CONTINUED ON PAGE 37)

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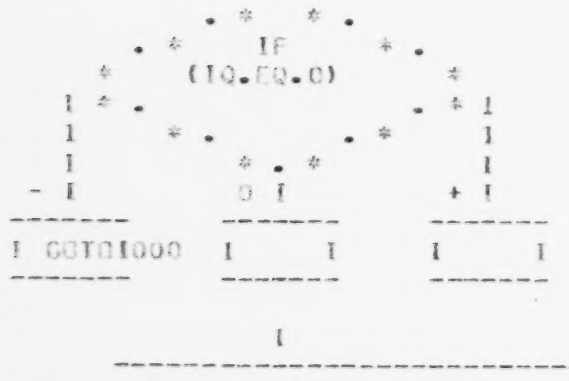
```
        C2   =C2+1.
        SUM2 =SUM2+PHYS
```

```
300     CONTINUE
```




```
        C2   =C2+1.
        SUM2 =SUM2+IQ/2.
```

```
400     CONTINUE
```

(CONTINUED ON PAGE 38)

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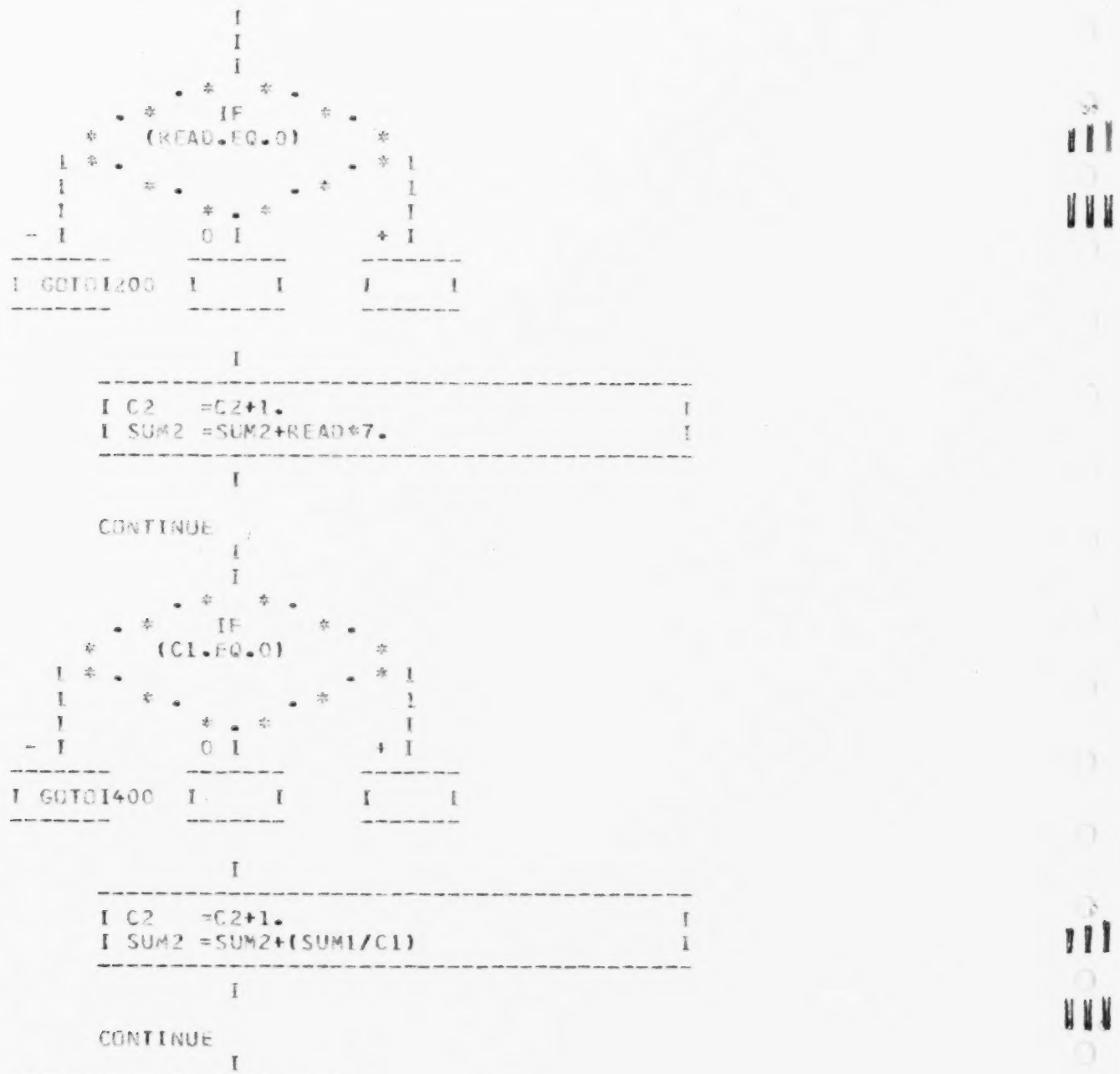

(CONTINUED ON PAGE 39)

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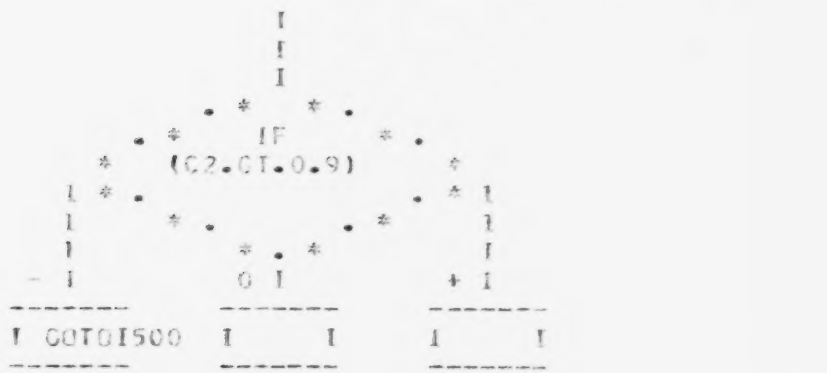
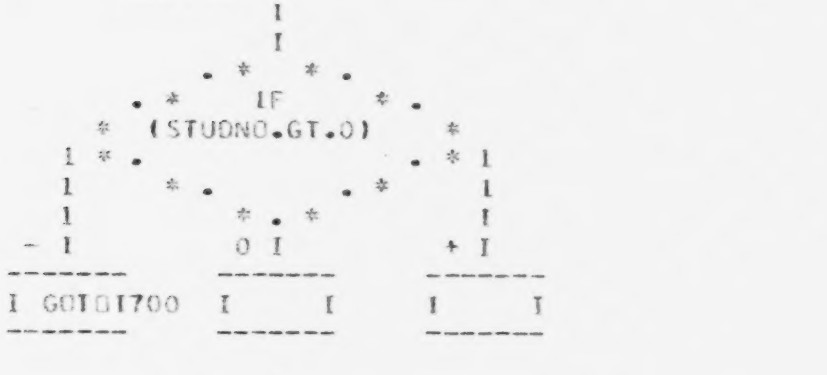


CAPIN=-999

25501

500 CAPIN=SUM2/C2

550 CONTINUE



NINCRS =NINCRS+1
NINFIL =NINFIL+1
STUDNO =NINFIL

(CONTINUED ON PAGE 40)

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(CONTINUED ON PAGE 41)

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```
                    I
                    I
                 -------
                 I 200 I
                 -------


300         CONTINUE
        ***WRITE(ISYS'1) NINFIL,NINCRS
                    I
                 -------
                 I 5000I
                 -------


            ENTRY DROP(INDEV)
600         CONTINUE
        ***READ(ISYS'1) NINFIL,NINCRS
            CALL INFO(DATE)
                    I
            ------------------------------------------
            I NOS  =0                                 I
            ------------------------------------------
                    I
300         ***READ(INDEV,3301,END=4800) STUDNM,STUDNO
301         FORMAT(12A2,A1,  52X  , I3 )
                    I
            ------------------------------------------
            I NOS  =NOS+1                             I
            ------------------------------------------
                    I
                    I
                    I
                 . * * .
              . *   IF    * .
            *(STUDNO.GT.0.AND.STUDNO.LE.NINFIL)
          1 * .                 . * I
          1     * .         . *     1
          1         * . *           I
        - I         0 I           + I
        -------     -------     -------
        I GOTO1600  I     I     I     I
        -------     -------     -------

                    I
            ------------------------------------------
            I J    =NINCRS                            I
            ------------------------------------------
                    I
        (CONTINUED ON PAGE  421
```

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```
                    I
          I=STUDNO

          CALL ERROR(DNAM,0,1,NOS,I,J)
                    I
                 -------
                 I 3300I
                 -------


4500      ***READ(IFILE'STUDNO) RECORD
                    I
                    I
                 . *   * .
              . *     IF      * .
            *   (DROPFG.EQ.0)     *
          I * .                   . * I
          I     * .           . *     I
          I         * . * .           I
        - I           0 I           + I
       -------      -------       -------
       I GOTO1000   I     I       I     I
       -------      -------       -------

                    I
          ------------------------------------------
          I I    =STUDNO                          I
          ------------------------------------------
                    I

          CALL ERROR(DNAM,0,2,NOS,I)
                    I
                 -------
                 I 3300I
                 -------


4600      CONTINUE
                    I
                 +-------------+
               + DO            +
     ++++++++++  4300           +
     +         + I = 1,13      +
     +          +-------------+
     +                I
     +                I
       (CONTINUED ON PAGE  43)
```

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(CONTINUED ON PAGE 44)

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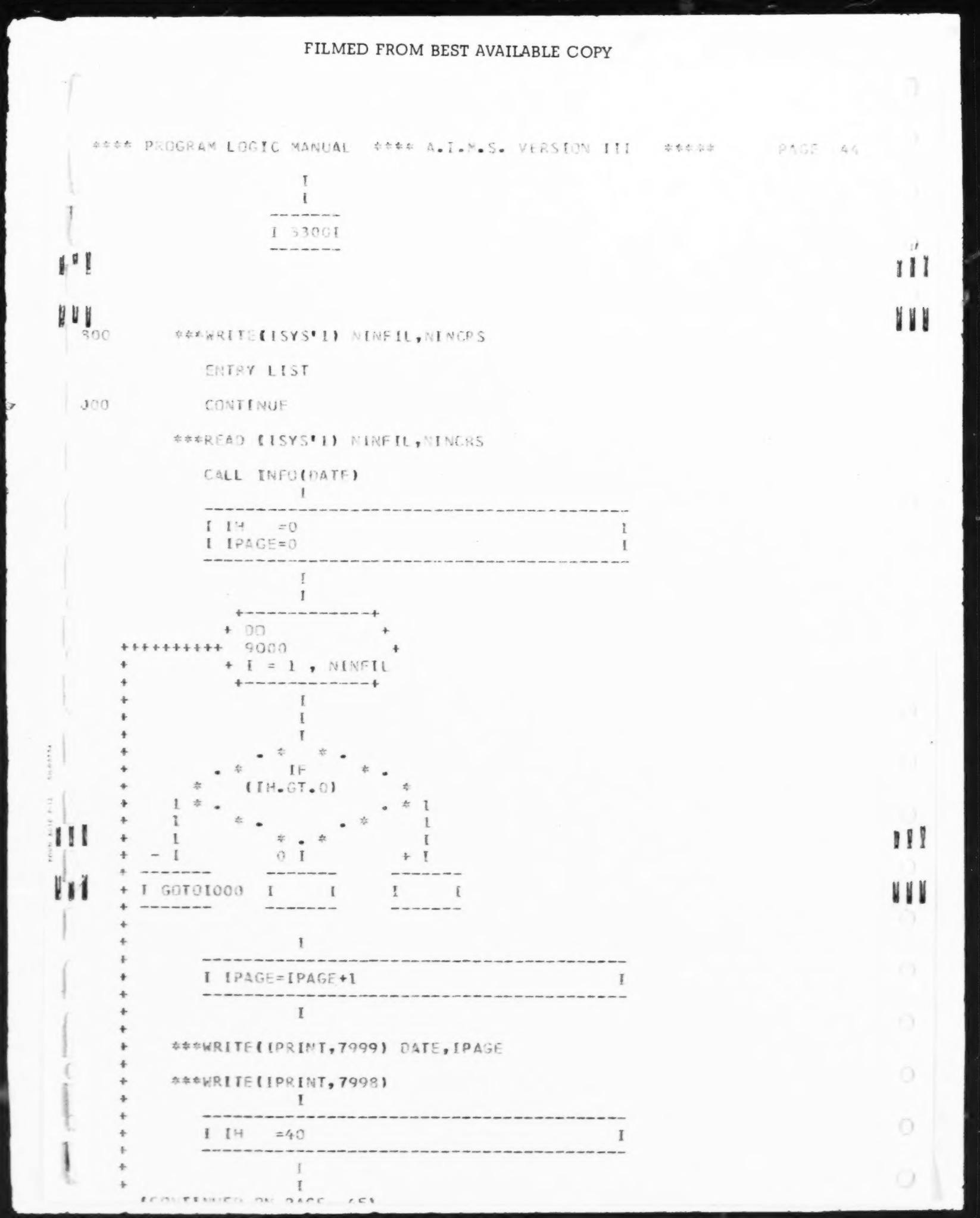

(CONTINUED ON PAGE 45)

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(CONTINUED FROM PAGE 44)


```
                    I
                    I
299 +       FORMAT(1HI     ,   7X  , '***'  , 2X , 'AT4S COURSE ROSTER' ,  2X,
    +       '***',55X,'JOB', 2X,4A2    ,   2X  ,    4A2  ,  1X   ,  4A2       ,
    +          / 91X,   'PAGE' , I4  /  /   /     )
    +
298 +       FORMAT(
    +        1X,  'NAME' ,  22X , 'S.S. NUM.' ,  1X , 'NO.' , 1X ,  'CAP.'
    +         , 1X ,  'SAT' , 2X , 'SAT' ,  1X , 'AVR' ,  4X , 'ALG' , 2X ,
    +        'ALG' ,  1X , 'GEOM' , 4X , 'CALC' , 5X , 'IQ' ,4X,'COMMENTS'  ,
    +         5X,    'CRSE',1X  , 'DROP' , 1X  , 'DATE' , 5X , 'DATE'      /
    +        41X , 'INDX' ,  1X  ,'MATH' , 1X , 'VERB' , 3X , 'RNK'      ,
    +         1X , 'ELEN' ,  1X  , 'INTR'  , 4X ,'TRIG' ,  4X  ,'PHYS'
    +         3X ,'READ' ,  23X  , 'ENTERED' ,  2X  , 'DROPPED'  /  /    )
    +
300 +     ***READ(IFILE'I) RECORD
                    I
          ------------------------------------------
          I IH    =IH-1                             I
          I K     =DROPFG+1                         I
          ------------------------------------------
                    I
    +
    +     ***WRITE(IPRINT,8001) NAME , LDNO, STUDNO , CAPIN,SATM,SATV,AVR,RANK,
    +         ALGE, ALGI, GEOM , TRIG , CALC , PHYS , IQ , READ,
    +         COMENT , COURSE ,DROPD(K) , DATIN ,DATOUT
    +
301 +       FORMAT( 1X , 12A2,A1 ,  1X ,  4A2,A1 ,   1X , I3  ,   2X ,  I2 ,
    +         2X , I3  ,  2X ,  I3 ,  2X , I2  ,  1X , I1  ,  3X , I2  ,
    +         3X ,  I2  ,   2X , I2  , 2X  I2  ,   2X ,  I2  ,  2X , I2  ,
    +         1X ,  I3 ,   1X ,  I2 ,   1X , 6A2   ,  2X  ,  I2  ,  2X,  A2 ,
    +         1X ,  4A2  ,   1X  , 4A2     )
    +
300 ++++++++CONTINUE
                    I
          ------------------------------------------
          I IPAGE=IPAGE+1                           I
          ------------------------------------------
                    I

          ***WRITE(IPRINT,7999) DATE,IPAGE

          ***WRITE(IPRINT,9001) NINFIL,NINCRS

9001        FORMAT(1X, 9(/)                ,
              13 X   , 'THERE ARE' ,I4  ,' RECORDS IN THE STUDENT FILE'    /
              14 X   , 'OF THESE'  ,I4  ,' STUDENTS REMAIN IN THE COURSE '  )

          ***RETURN

              END

              SUBROUTINE INPUT(INDEV)

              COMMON/SYSTEM/NLESS,NDECK,NREX,NQUEST,NSTUD

              COMMON/FILES/IW1(2),IPRINT,IW2(5),IFILE,IW3(2),ISYS,IW4(3)
                    I
```

(CONTINUED ON PAGE 46)

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```
                    I
            INTEGER * 2 NINFIL,NINCRS
            INTEGER * 2 NAME(13),IDNO(5),SATM,SATV,AVR,RANK,ALGE,GEOM,TRIG,
             ALGI,CALC,PHYS,IQ,READ,COMENT(6), COURSE , CAPIN , RECORD(39)
              , CHEM ,NAVRNK , MTHACH , STUDNO  , SECOND(55)
            EQUIVALENCE (COURSE,RECORD(5)) , (NAME(1),RECORD(6))     ,
             (IDNO(1),RECORD(19)) , (CAPIN,RECORD(25)) , (SATM,RECORD(29))
             (SATV,RECORD(30)) , (AVR,RECORD(31)) , (RANK,RECORD(32))
             (ALGE,RECORD(33)) , (GEOM,RECORD(34)) , (TRIG,RECORD(35))
             (ALGI,RECORD(36)) , (CALC,RECORD(37)) , (PHYS,RECORD(38))
             (IQ,RECORD(39)) , (READ,RECORD(40)) ,  (NAVRNK,RECORD(41))
             (COMENT(1),RECORD(42)) , (MTHACH ,RECORD(39) ) ,(CHEM,RECORD(38))
                , (STUDNO, RECORD(2) )
            DATA RECORD/41*0 , 14 * ' ' ,  10 * 0 /
            DIMENSION NERR(2)
            DATA NERR/'INPU','T'/
            INTEGER ONAM(2)
            DATA ONAM/'DROP',' '/
            INTEGER * 2 DATE(12) , STUONM(13),DROPFG
            EQUIVALENCE (DROPFG,RECORD(24))
            INTEGER * 2 BLANK
            DATA BLANK/' '/
            INTEGER  * 2 DATIN(4),DATOUT(4)
            EQUIVALENCE (DATIN(1) , RECORD(48)) , ( DATOUT(1), RECORD(52) )
            INTEGER DROPD(2)
            DATA DROPD/'  ','YES'/
                    I
            ------------------------------------------
            I NOS  =0                                 I
            ------------------------------------------
                    I
          ***READ(ISYS'1) NINFIL,NINCRS
            CALL INFO(DATE)
200         CONTINUE
                    I
      (CONTINUED ON PAGE  47)
```

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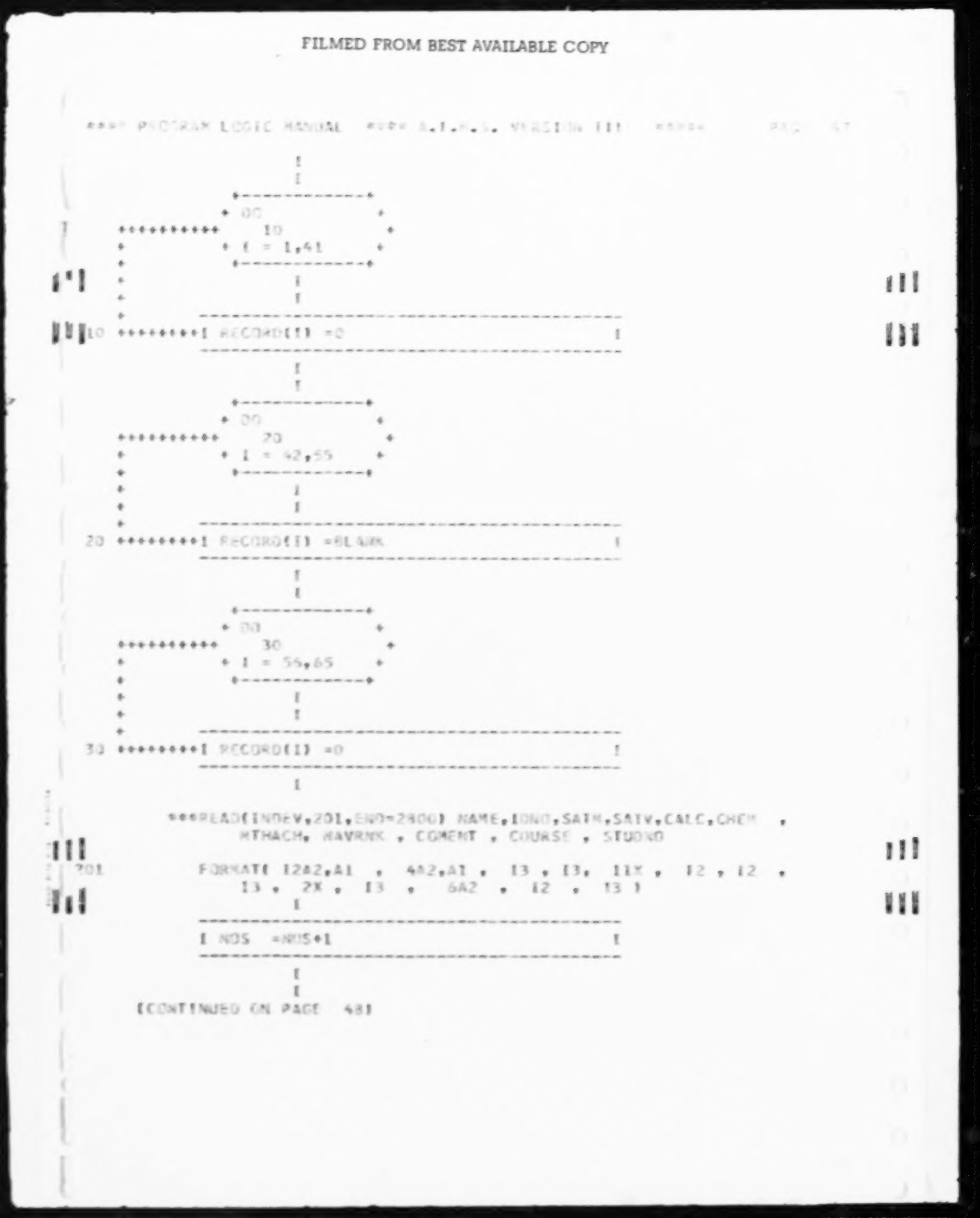

(CONTINUED ON PAGE 48)

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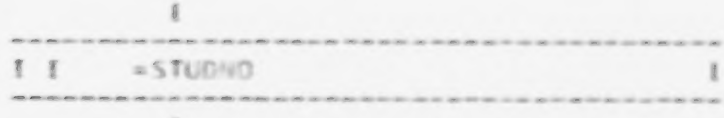
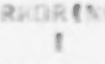


CALL ERROR(NERR,0,1,MOS,1)



175 ***READ(1FILE'STUDNO) SECOND

(CONTINUED ON PAGE 49)

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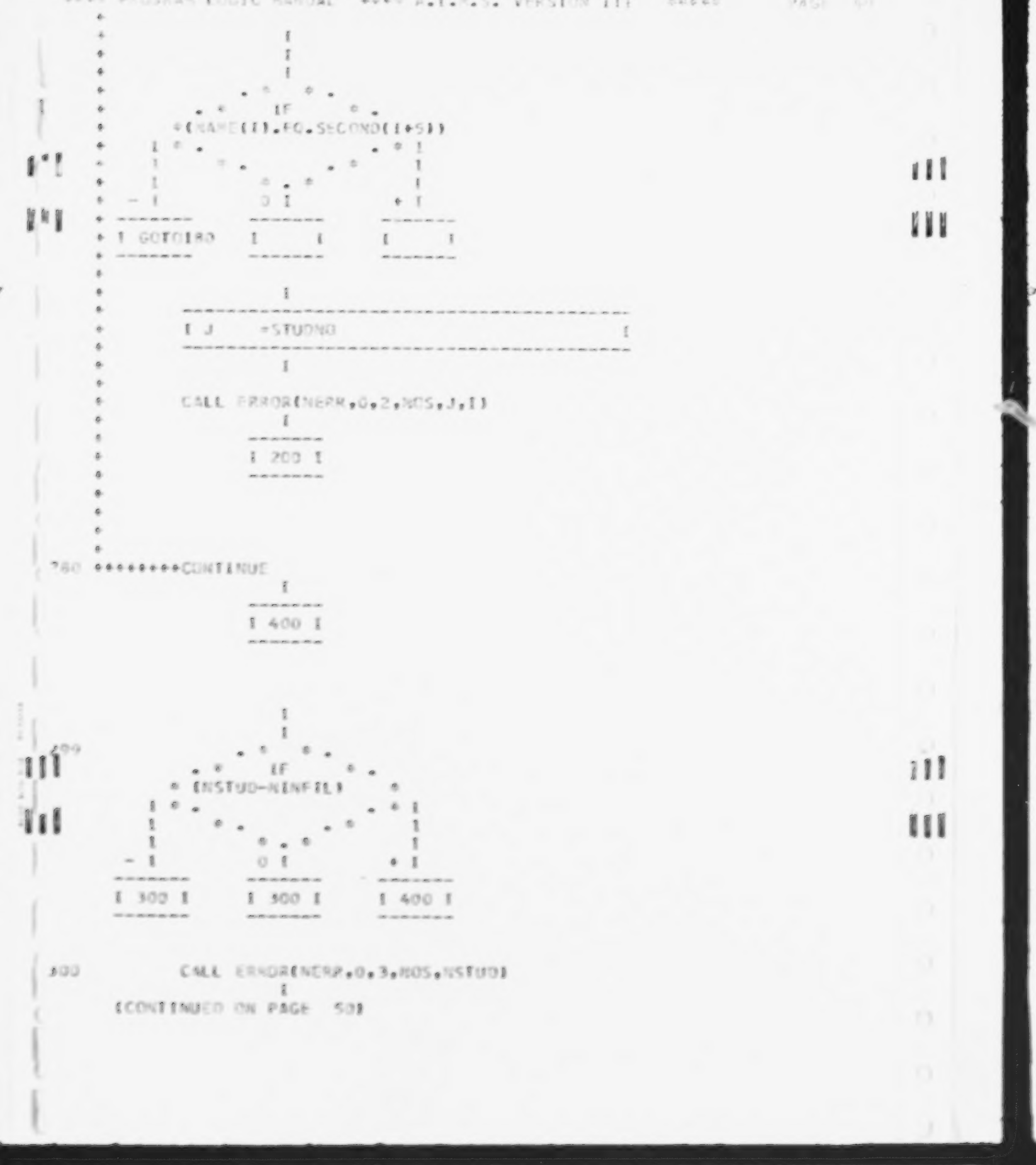

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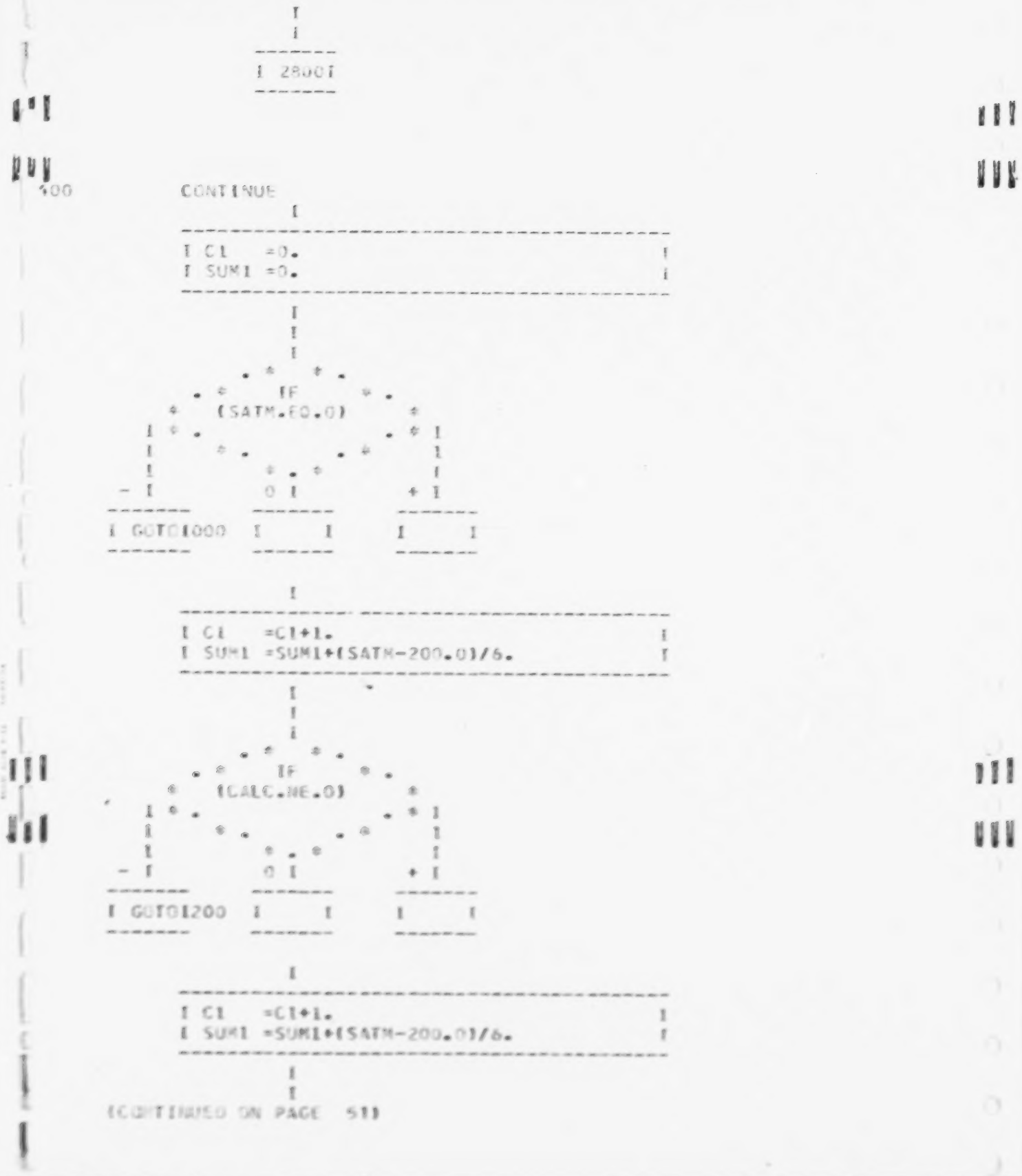

(CONTINUED ON PAGE 51)

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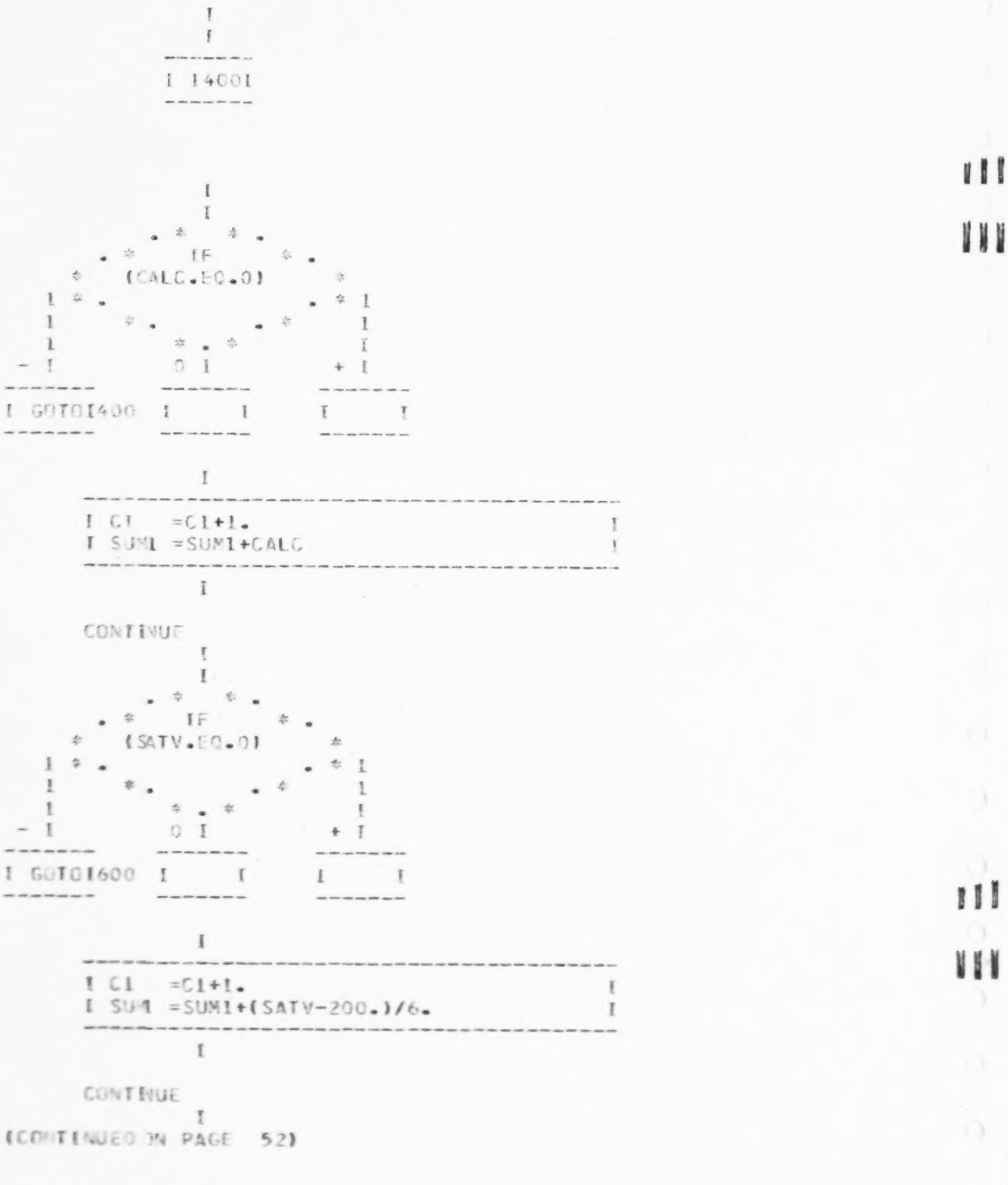

(CONTINUED ON PAGE 52)

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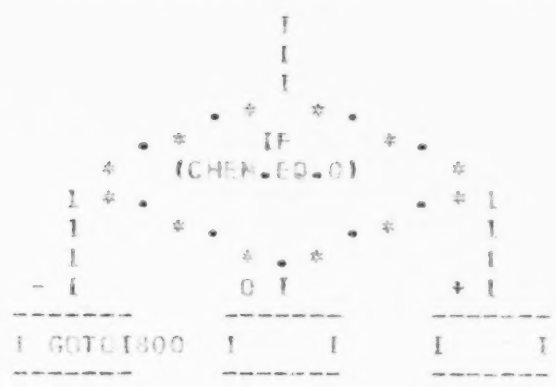
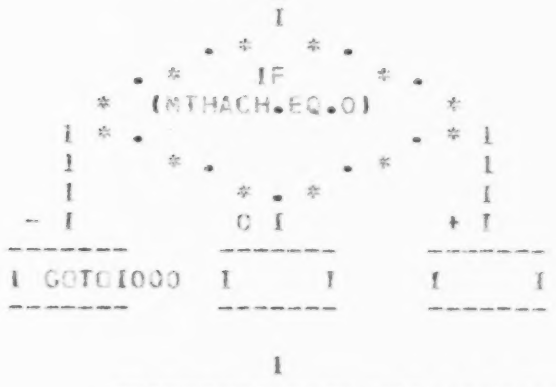



```
      C1   =C1+1.
      SUM1 =SUM1+CHEM
```

```
800   CONTINUE
```




```
      C1   =C1+1.
      SUM1 =SUM1+(MTHACH-200.0)/6.
```

```
1000  CONTINUE
```

(CONTINUED ON PAGE 53)

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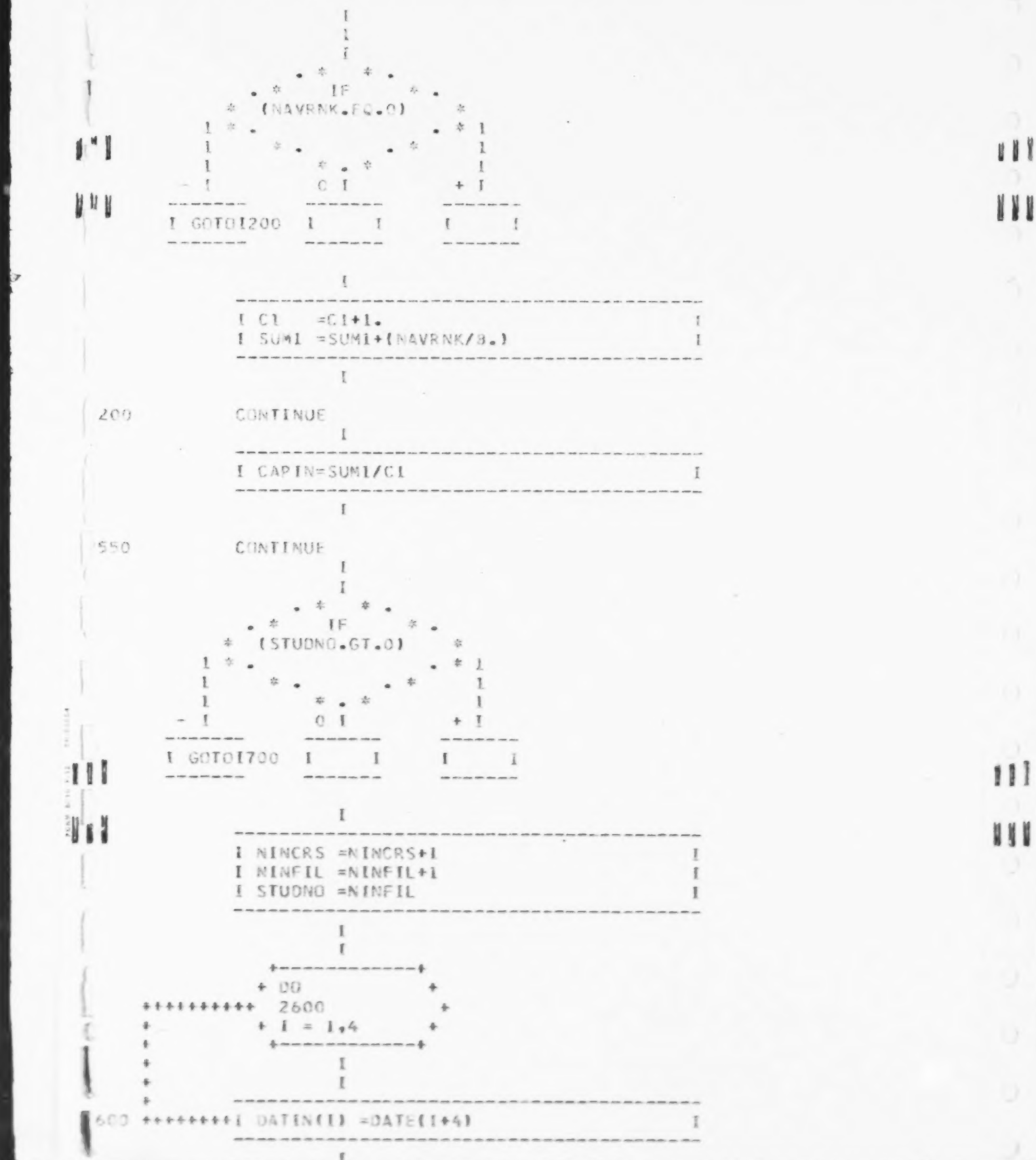

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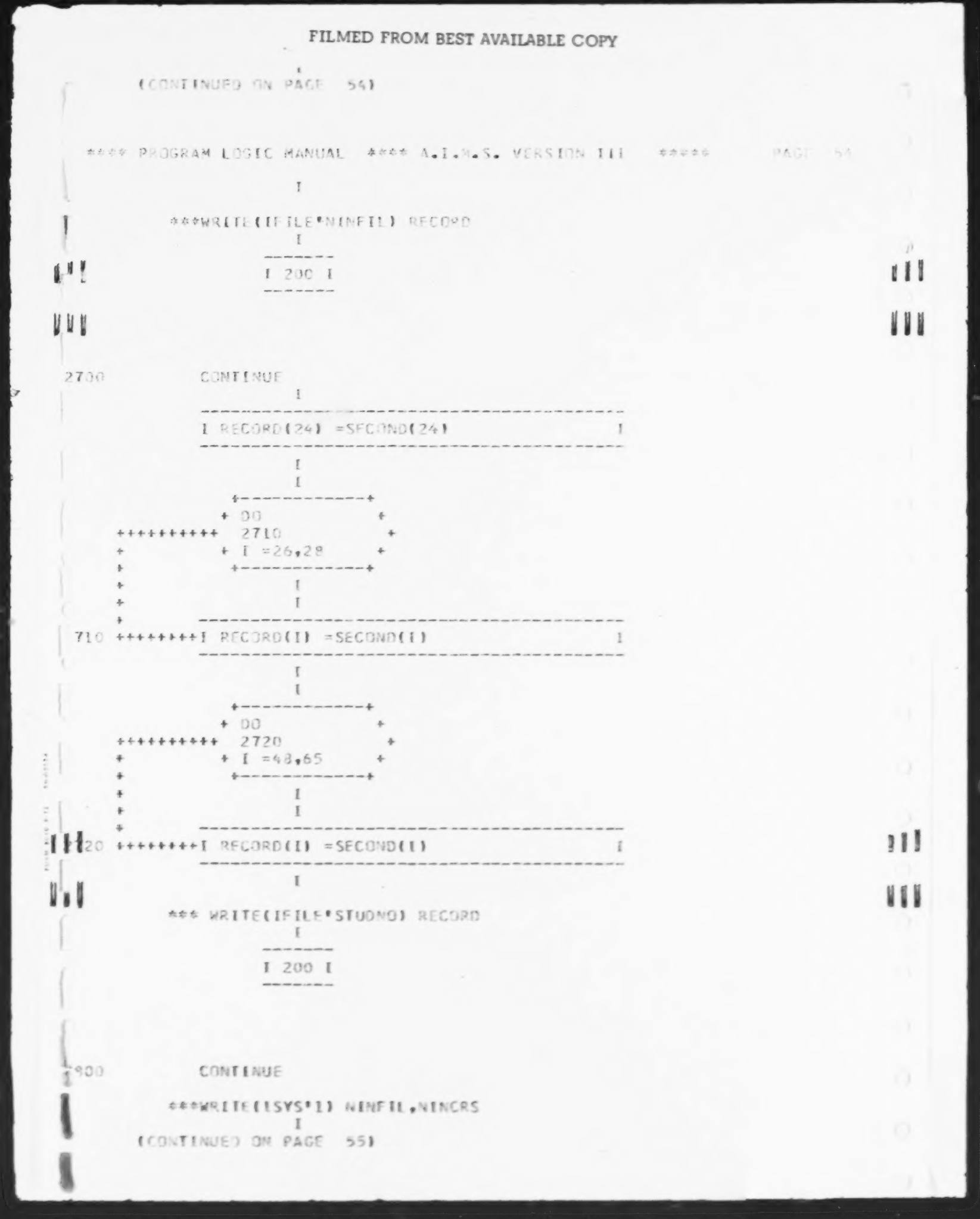
(CONTINUED ON PAGE 54)



(CONTINUED ON PAGE 55)

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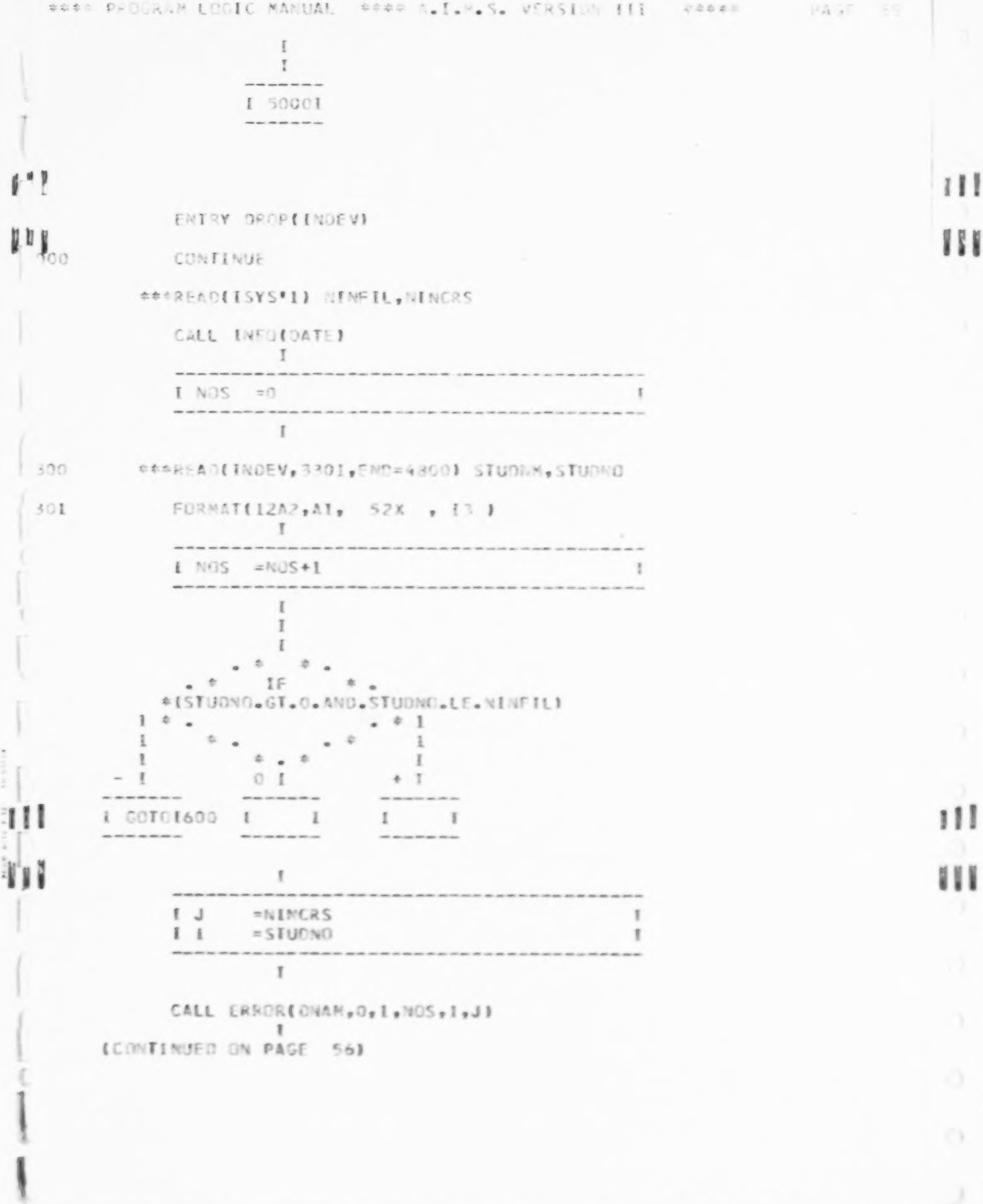

(CONTINUED ON PAGE 56)

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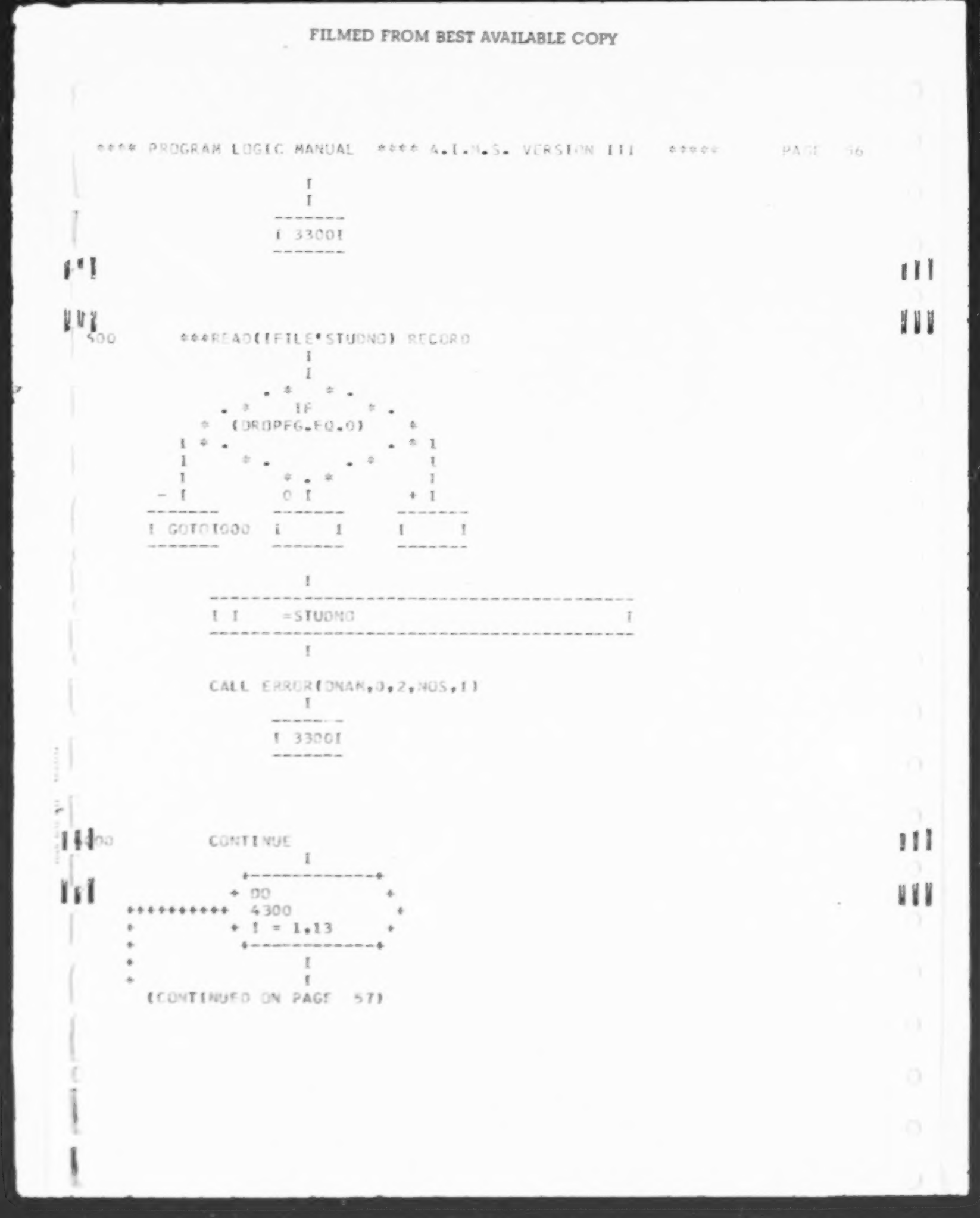

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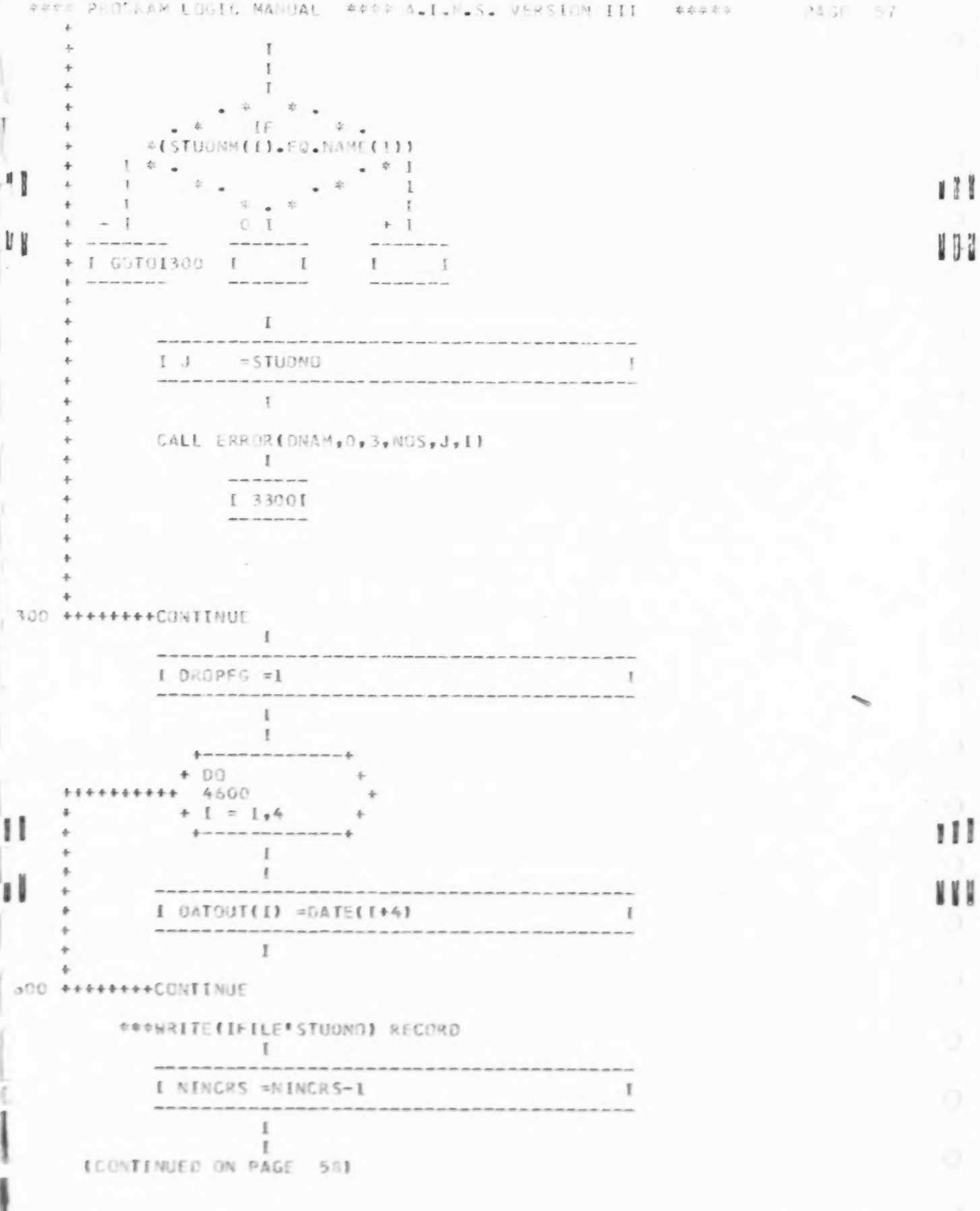

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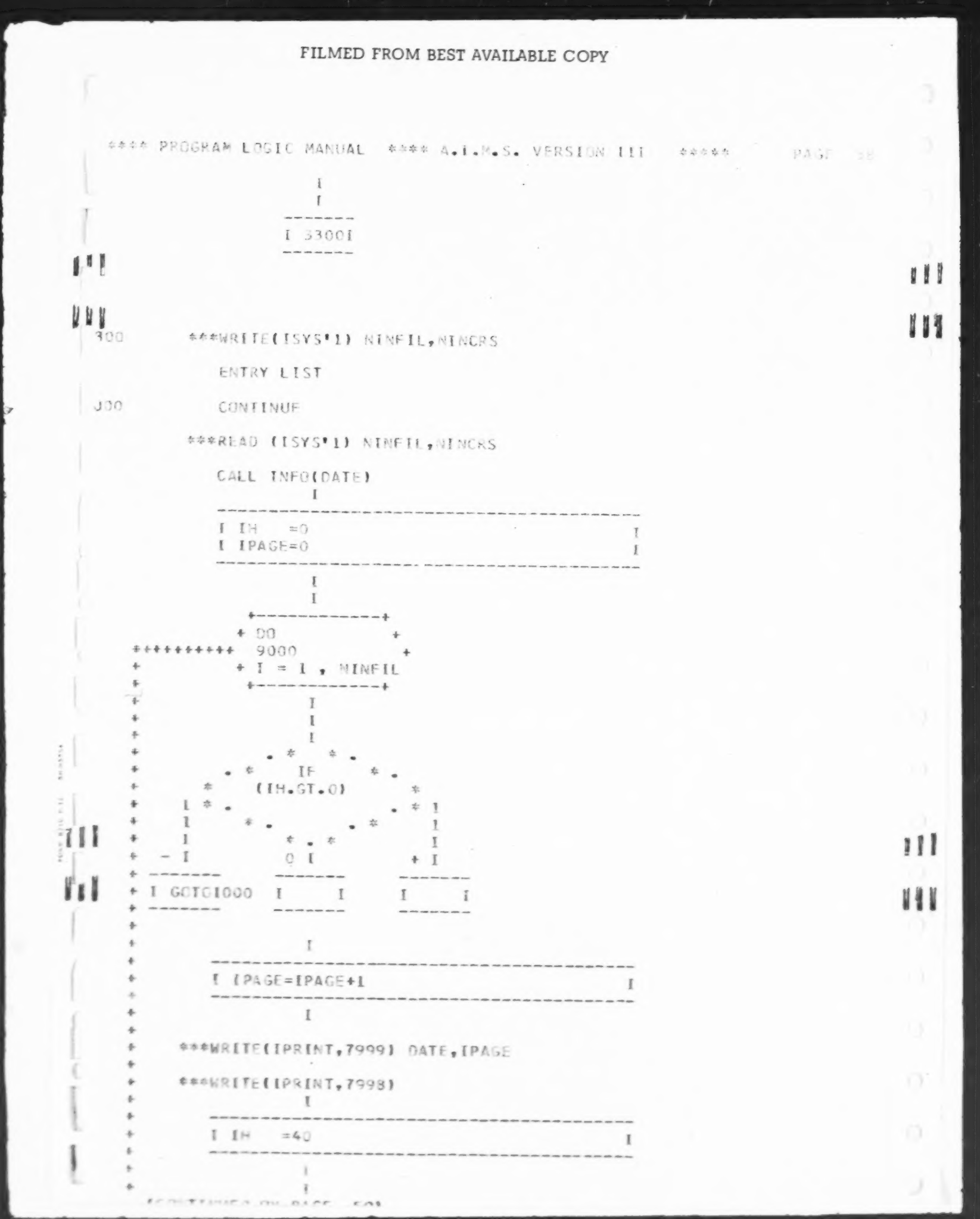

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(CONTINUED ON PAGE 77)


```
     +                    I
     +
     +
 799 +          FORMAT(1H1      ,   7X  , '***'  , 2X , 'AIMS COURSE ROSTER' ,  2X,
     +          '***',55X,'JOB', 2X,4A2    ,   2X  ,    4A2  , 1X   , 4A2        ,
     +             / 91X,   'PAGE' , I4  /  /   /      )
     +
 998 +          FORMAT(
     +           1X,  'NAME' ,  22X , 'ACAD NUM.'  , 1X , 'NO.' , 1X ,'CAP INDX.',
     +           1X,  'SAT MATH' ,  1X , 'SAT VERB' ,   1X   ,'CALC' , 1X ,
     +           'CHEM' , 1X  ,   'MATH ACH'   , 1X ,   'RANK'  , 2X,'COMMENTS',
     +            5X,    'CRSE',1X  , 'DROP' , 1X  , 'DATE' , 5X , 'DATE'      /
     +              117X             , 'ENTERED' ,  2X  , 'DROPPED'  /  /   )
     +
8000 +     ***READ(IFILE'() RECORD
     +                    I
     +          ------------------------------------------
     +          I IM    =IM-1                             I
     +          I K     =DROPED+1                         I
     +          ------------------------------------------
     +                    I
     +
     +     ***WRITE(IPRINT,8001) NAME , IDNO , STUDNO , CAPIN , SATM , SATV ,
     +           CALC ,  CHEM  ,  MTHACH ,  NAVRNK                 ,
     +           COMENT , COURSE ,DROPD(K) , DATIN ,DATOUT
     +
 001 +          FORMAT( 1X , 12A2,A1 , 1X ,  4A2,A1   ,  1X ,  I3 , 4X ,  I2  ,
     +            7X ,  I3 ,   6X ,  I3  ,   5X ,  I2 ,  3X , I2  , 5X , I3  ,
     +            4X ,  I3 ,  2X ,   6A2  ,  2X ,  I2 ,  2X,  A3,   1X , 4A2 ,
     +            1X ,  4A2    )
     +
 900 ++++++++CONTINUE
                    I
          ------------------------------------------
          I IPAGE=IPAGE+1                           I
          ------------------------------------------
                    I

        ***WRITE(IPRINT,7999) DATE,IPAGE

        ***WRITE(IPRINT,9001) NINFIL,NINCRS

 901        FORMAT(1X, 9(/)                 ,
              I3 X   , 'THERE ARE' ,I4  ,' RECORDS IN THE STUDENT FILE'    /
              I4 X   , 'OF THESE'  ,I4  ,' STUDENTS REMAIN IN THE COURSE '  )

        ***RETURN

           END

              SUBROUTINE MB01(INUNIT,LEVEL)

              COMMON/SYSTEM/NLESS,NDECK,NRES,NQUEST,NSTUD

              COMMON/FILES/IW1(2),IPRINT,IW2(2),IHEAD,IDIR,IQUEST,IW3(3)
              ,ISYS,IW4(3)

              INTEGER * 2  LPERM   ,   NPERM   , IDREC ,
              PTRS(50),      NOS(50)  , MRCORD(65) , LTABLE(4,10,40)
              , MRCORD(40)  ,LESSON,  SEGMNT , TO , MBO ,KEY(17)  ,
              SKIL1, SKIL2 , MEDIA, TYPE, QUEST , PRES(13) ,COURSE
                    I
```

(CONTINUED ON PAGE 58)

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```
                    I
                INTEGER * 2 QSTION(70) , DRCTRY(200), CHAIN(3,4000)
                , POINT1 , POINT2  , QPOINT    , QTO  ,  QMBO

                INTEGER RNO , DECK , RNAME(2) , HEAD , POINT

                DATA RNAME/'MBO',' '/

                EQUIVALENCE   (LESSON  , MRCORD(1) )  , (SEGMNT , MRCORD(2) ) ,
               (TO , MRCORD(3) ) ,  (MBO , MRCORD(4)   ), (KEY(1) , MRCORD(5))
               , (SKIL1, MRCORD(22) ) ,   (SKIL2, MRCORD(23) ) ,
                 (MEDIA , MRCORD(24) ) , (TYPE , MRCORD(25) )  ,
                 (QUEST , MRCORD(26)  ) , (PRES(1) , MRCORD(27) ) ,
                 (COURSE, MRCORD(40) )  , (QTO  , QSTION(6) )  ,
                 ( QMBO , QSTION(7)  )  , (QPOINT , QSTION(8) )

                INTEGER LIST(2)

                INTEGER DATE(6)

              , INTEGER * 2 IONUM
                    I
            ------------------------------------------
            I IREX =0                                 I
            ------------------------------------------
                    I
        ***     READ(ISYS*2) LPERM,KPERM
                    I
                    I
                  . * .
                . *   IF    * .
              * (LPERM.GT.0)     *
            I * .                . * I
            I     * .          . *    I
            I         * . * .         I
          - I         0 I           + I
        -------     -------      -------
        I GOTO100   I     I      I     I
        -------     -------      -------

                CALL ERROR(RNAME,0,1)

        ***     RETURN

  200           CONTINUE
                    I
            ------------------------------------------
            I MINLES =LPERM+1                         I
            ------------------------------------------
                    I

        ***     READ(ISYS*3) PTRS
                    I
      (CONTINUED ON PAGE  61)
```

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```
                    I
        ***   READ(ISYS'4) NOS
              DO 500 LES = 1,LPERM
                    I
              ------------------------------------------
              I I1   =PTRS(LES)                        I
              I I2   =PTRS(LES)+NOS(LES)-1             I
              I DECK =0                                I
              ------------------------------------------
                    I
              DO 400 RNO = I1,I2
        ***   READ(IHEAD'RNO) HRCORD
                    I
              ------------------------------------------
              I DECK =DECK+1                           I
              ------------------------------------------
                    I
              LTABLE(1,DECK,LES) = HRCORD(3)
              LTABLE(2,DECK,LES) = HRCORD(4)
              LTABLE(3,DECK,LES) = HRCORD(8)
              LTABLE(4,DECK,LES) = HRCORD(13)
  400         CONTINUE
  500         CONTINUE
  600         CONTINUE
        ***   READ(INUNIT,801,END=1600) HRCORD
  801         FORMAT( I2 , I1 , I3 , I2 , 17A2 , I1, I1 , I2 , I2 , I2 , 1X ,
             12A2,A1, 2X, I2 )
                    I
              ------------------------------------------
              I IREX =IREX+1                           I
              ------------------------------------------
                    I
                    I
```

(CONTINUED ON PAGE 62)

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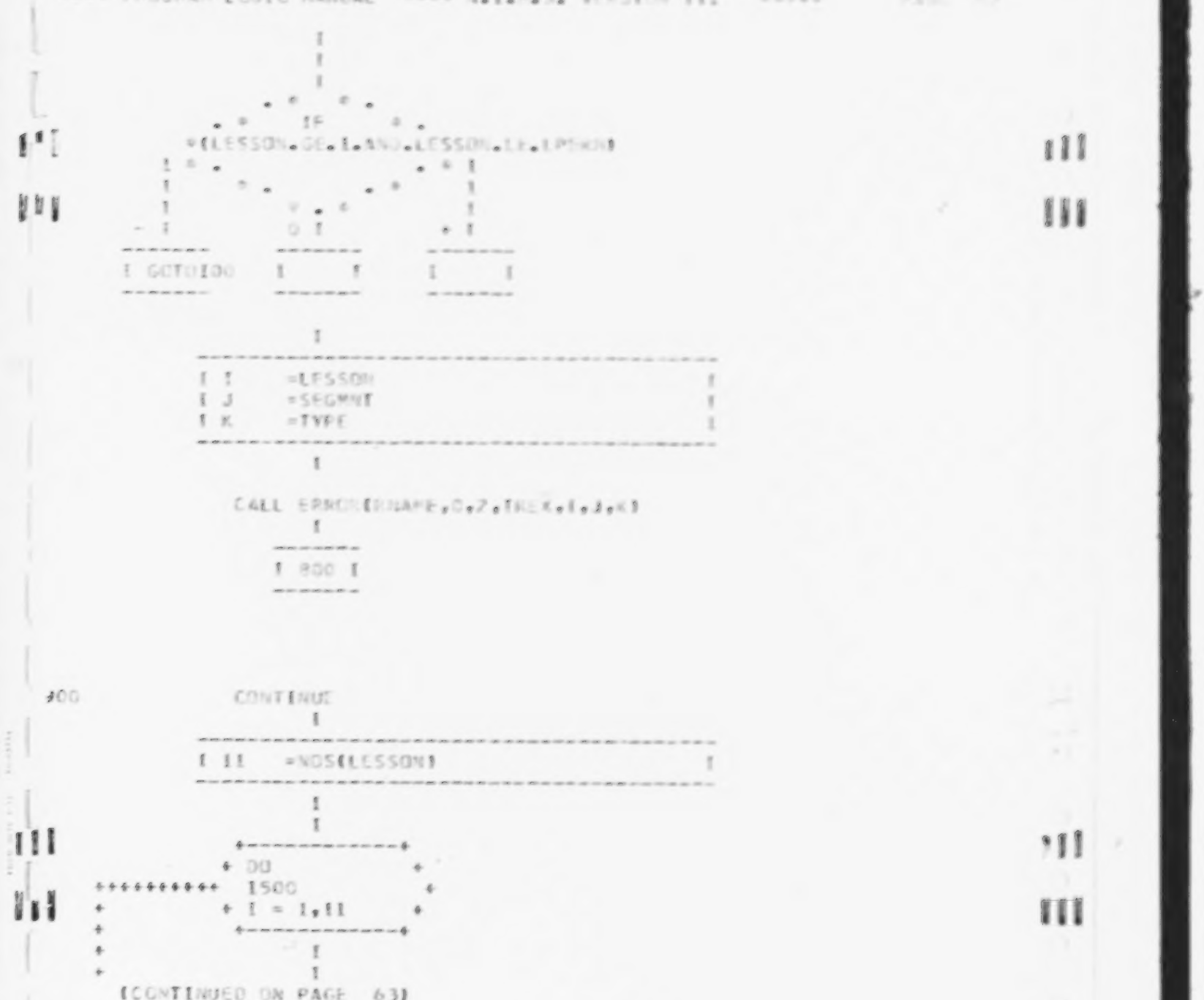

(CONTINUED ON PAGE 63)

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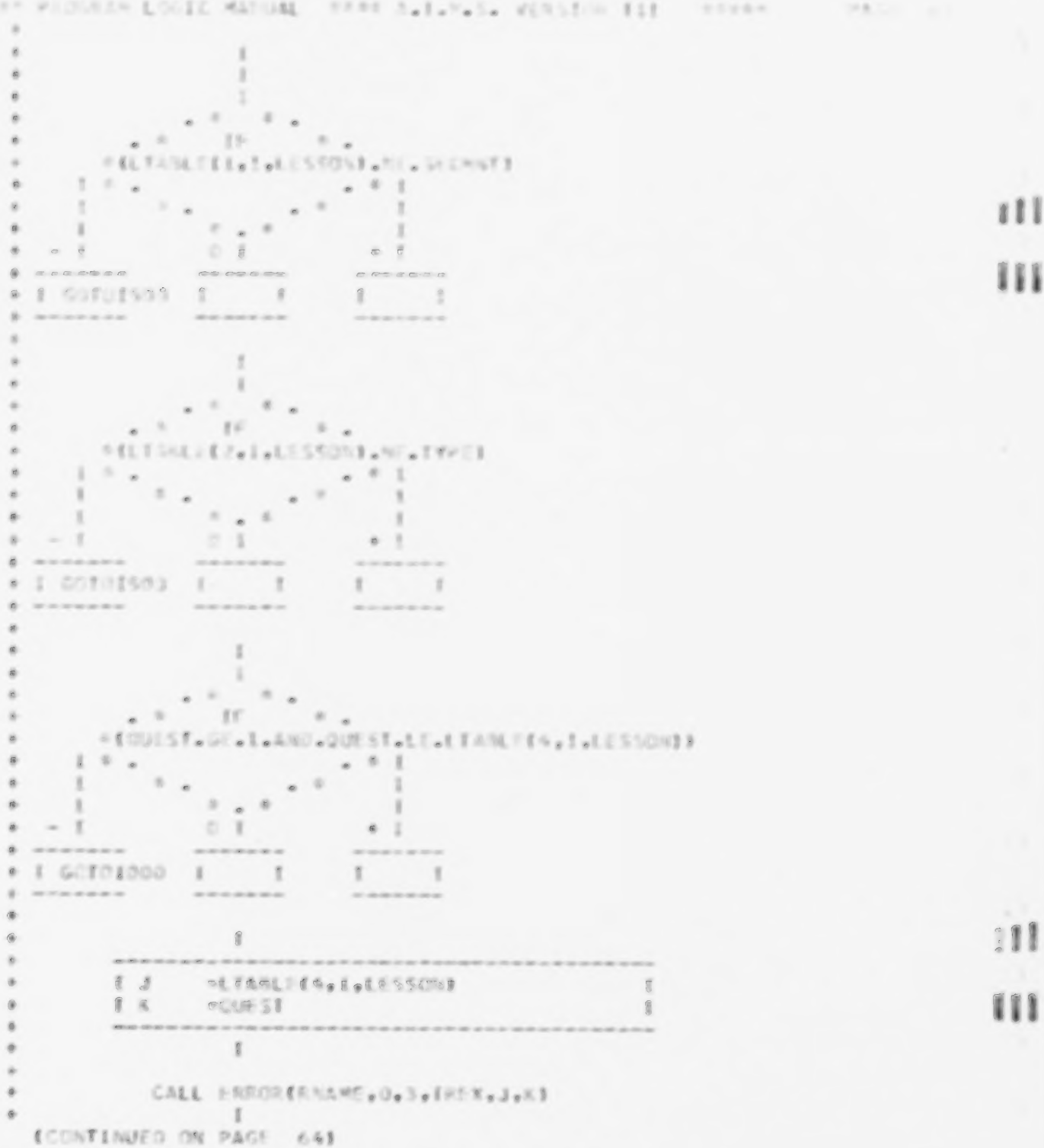

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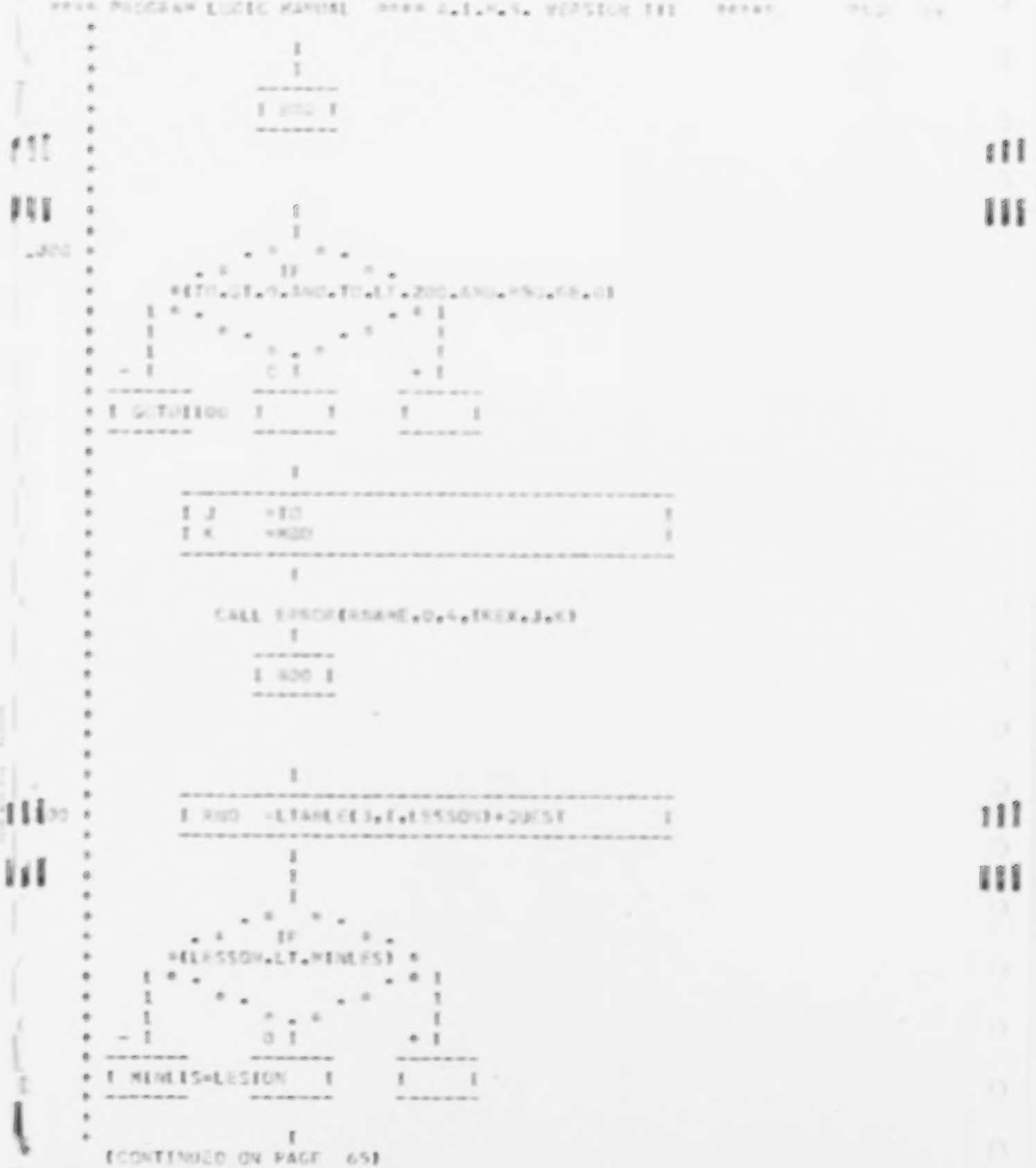

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```
      *                    !
      *
      *     ***   READ(IQUEST,RNO) QSTION
      *                    !
      *          ----------------------------------------
      *          ! JO  =IO                              !
      *          ! QNO =RNO                             !
      *          ----------------------------------------
      *                    !
      *
      *            QSTION(19) = SKILL
      *
      *            QSTION(14) = SKILP
      *
      *            QSTION(15) = MEDIA
      *                    !
      *                 +-------------+
      *                 *DO           *
      ********** IZOO   *             *
      *                 *J = 1,17     *
      *                 +-------------+
      *                    !
      *
      *            QSTION(J + 40) = RCV(J)
      *
  700 ********    CONTINUE
      *                    !
      *                 +-------------+
      *                 *DO           *
      ********** I300   *             *
      *                 *J = 1,13     *
      *                 +-------------+
      *                    !
      *
      *            QSTION(J + 57 ) = PHYS(J)
      *
  800 ********    CONTINUE
      *
      *     ***   WRITE(ICURSI,RNO) QSTION
      *                    !
      *                 -------
      *                 ! 800 !
      *                 -------
      *
      *
      *
      *
 7400 ********    CONTINUE
                         !
                ----------------------------------------
                ! I    =LESSON                         !
                ! J    =SEGMNT                         !
                ! K    =TYPE                           !
                ----------------------------------------
                         !

                   CALL ERROR(RNAME,0,5,IREX,I,J,K)
                         !
        (CONTINUED ON PAGE  66)
```

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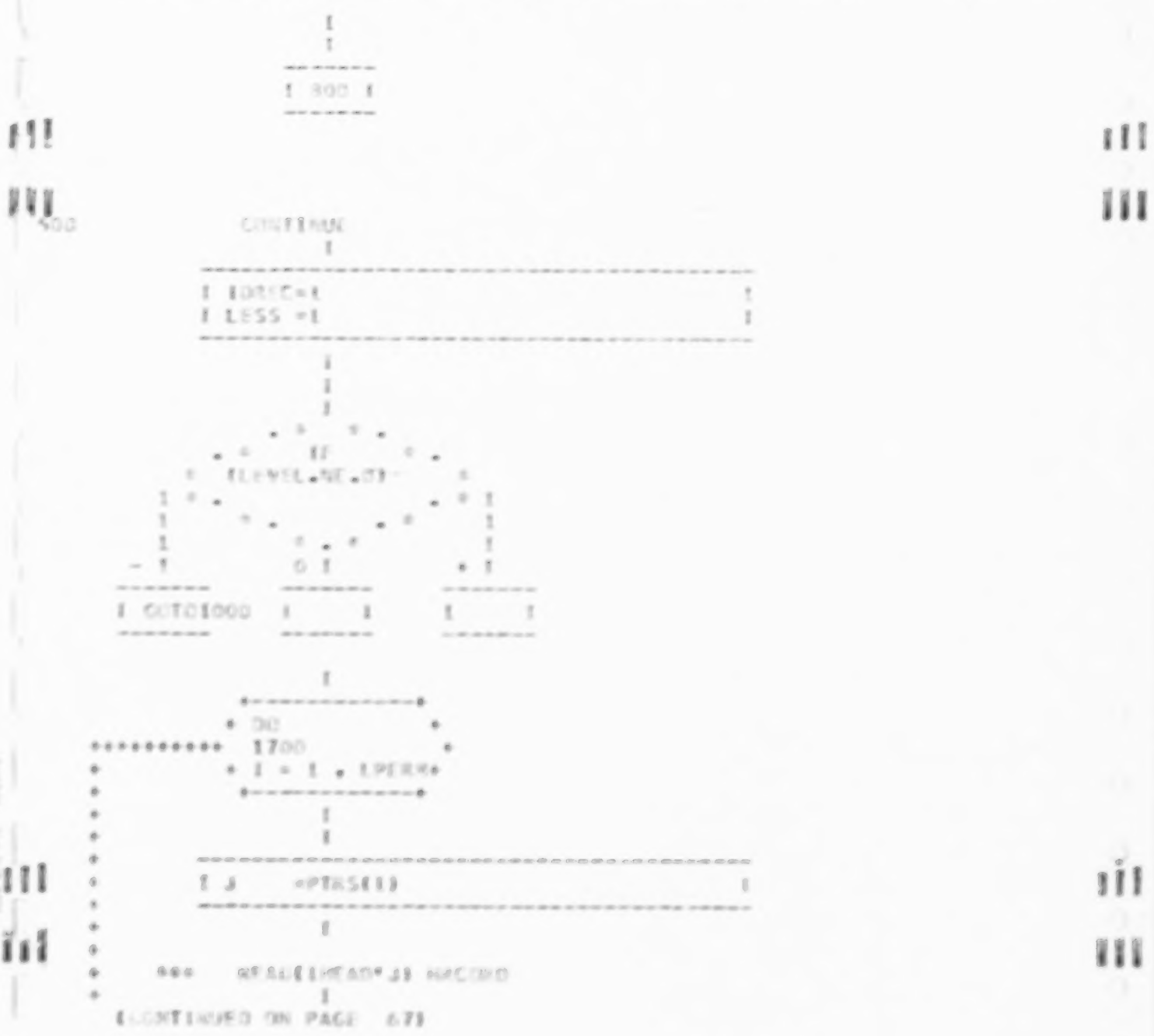

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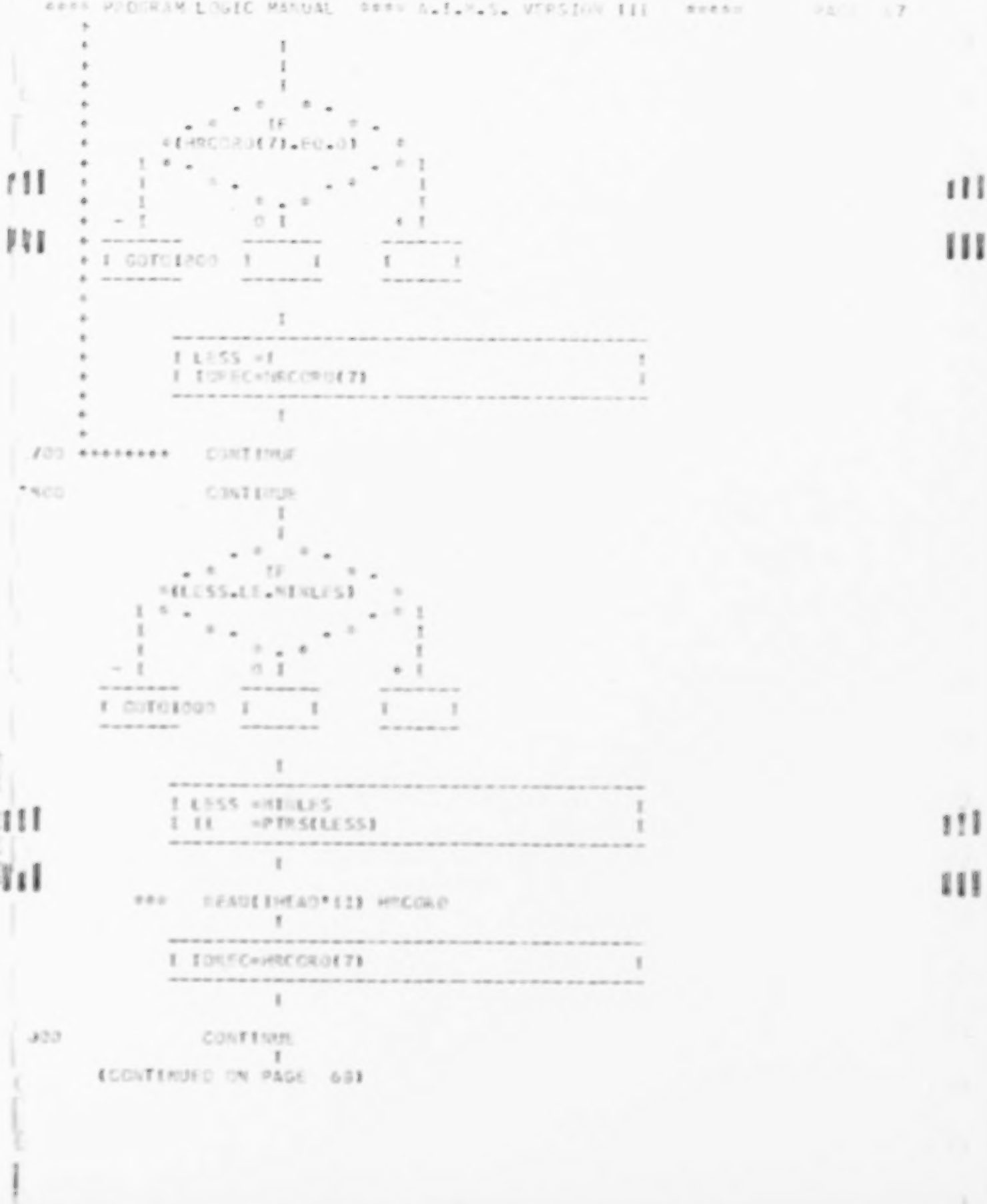

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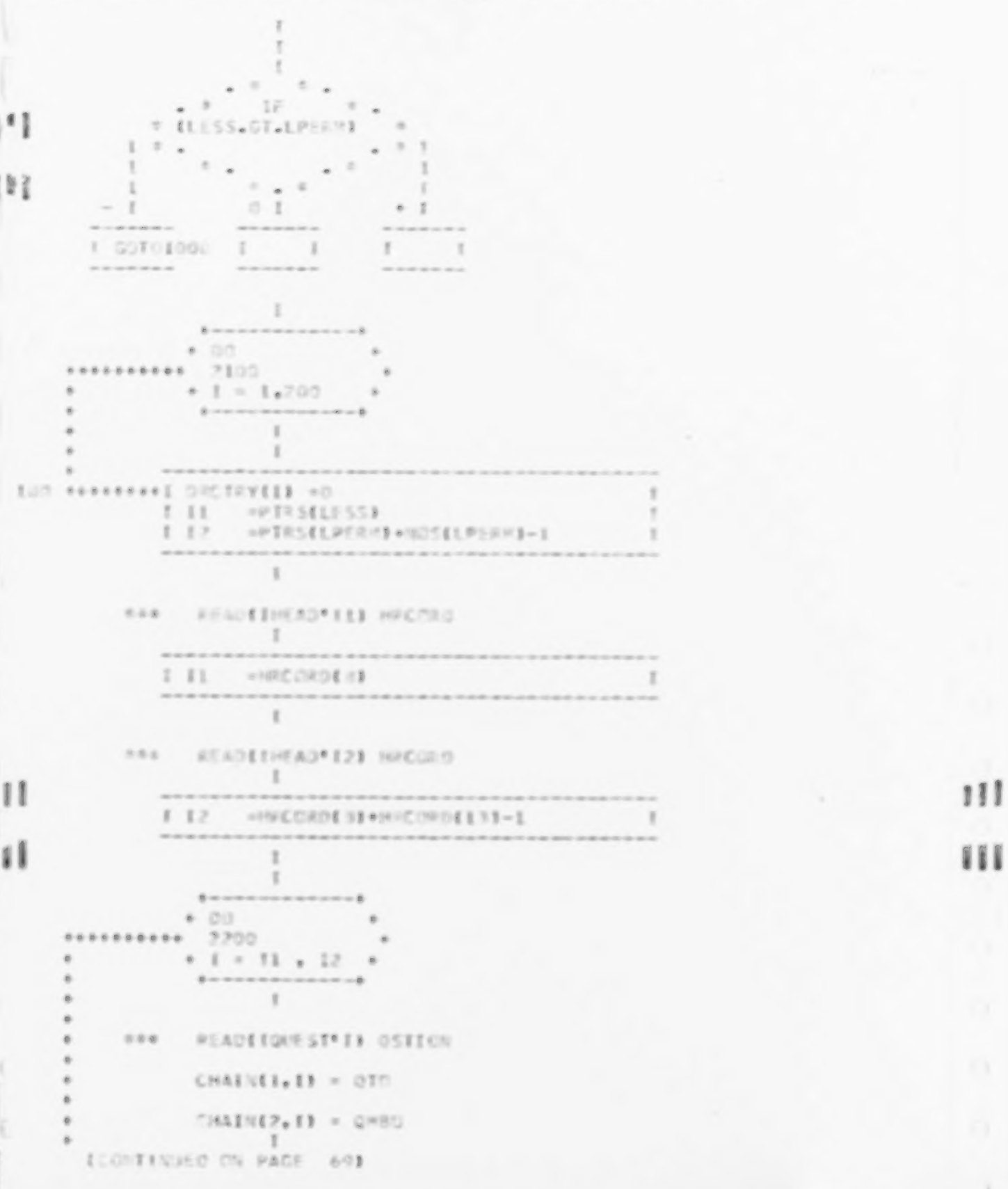

(CONTINUED ON PAGE 64)

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```
C
C                    I
C
C            CHAIN(3,I) = 0
C
700 ********    CONTINUE
C
800             CONTINUE
C
                DO 5500 LS = LFSS,LPSS
                    I
          ------------------------------------------------
          I IFRST=PIPS(LS)                               I
          I ILAST=PIPS(LS)+NOS(LS)-1                     I
          ------------------------------------------------
                    I
C
                DO 5000 MEAD = IFRST , ILAST
C
          ***   READ(1'HEAD'MEAD) HRCORD
                    I
          ------------------------------------------------
          I IR1   =HRCORD(8)                             I
          I IR2   =HRCORD(11)+IR1-1                      I
          ------------------------------------------------
                    I
C
                DO 4500 RND = IR1,IR2
                    I
          ------------------------------------------------
          I TO    =CHAIN(1,RND)                          I
          ------------------------------------------------
                    I
                    I
                    I
                  . * .   * .
              . *     IF      * .
            *     (TO.EQ.0)       *
          I * .                   . * I
          I     * .           . *     I
          I         * . * .           I
        - I         0 I           * I
       --------     -------      --------
       I GOTO 500   I     I      I      I
       --------     -------      --------
C
                    I
          ------------------------------------------------
          I RND   =CHAIN(2,RND)                          I
          ------------------------------------------------
                    I
                    I
       (CONTINUED ON PAGE  70)
```

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DRCTRY(IO) = RND

RND CONTINUE

CHAIN(3,RND) = I

DRCTRY(IO) = RND

(CONTINUED ON PAGE 71)

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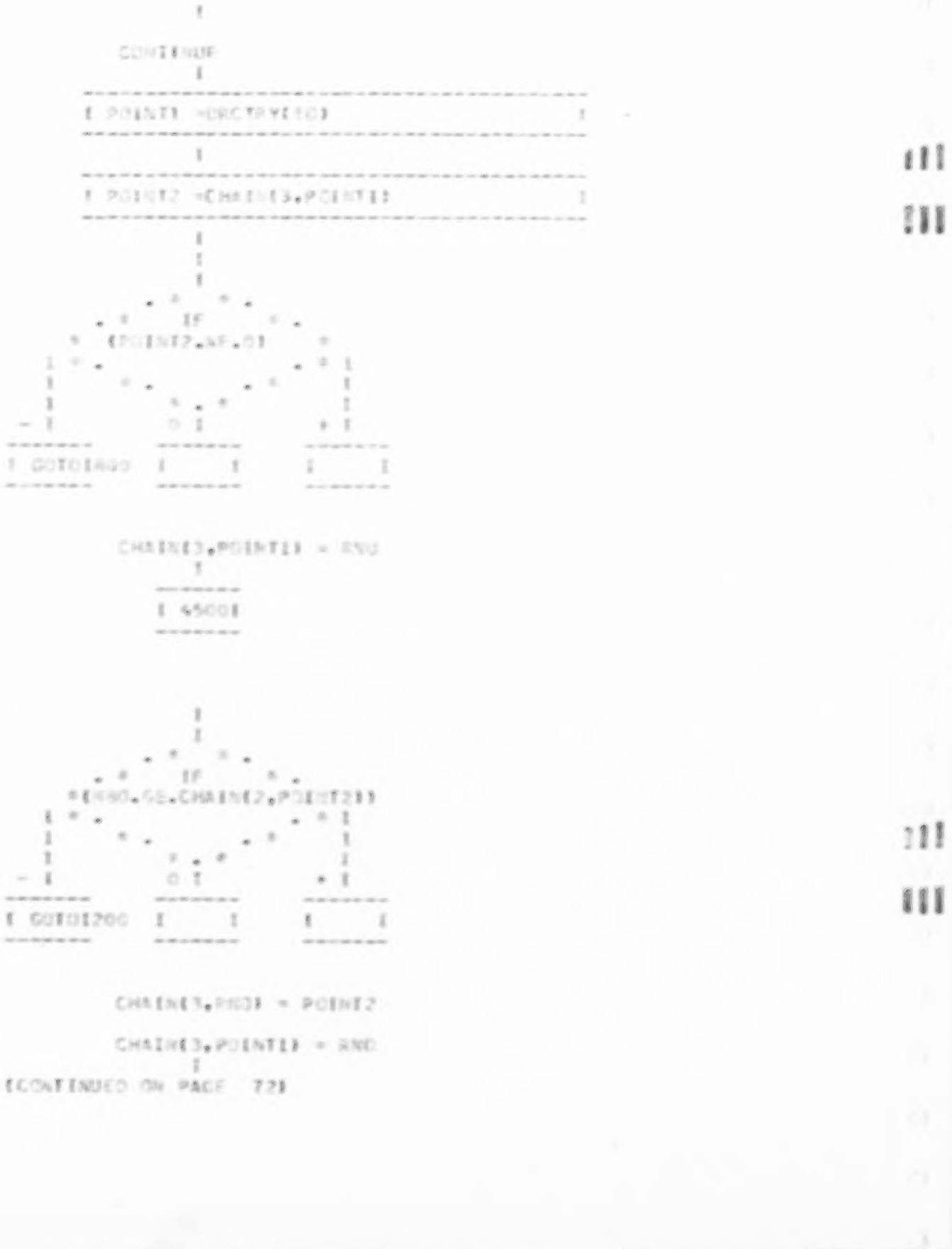

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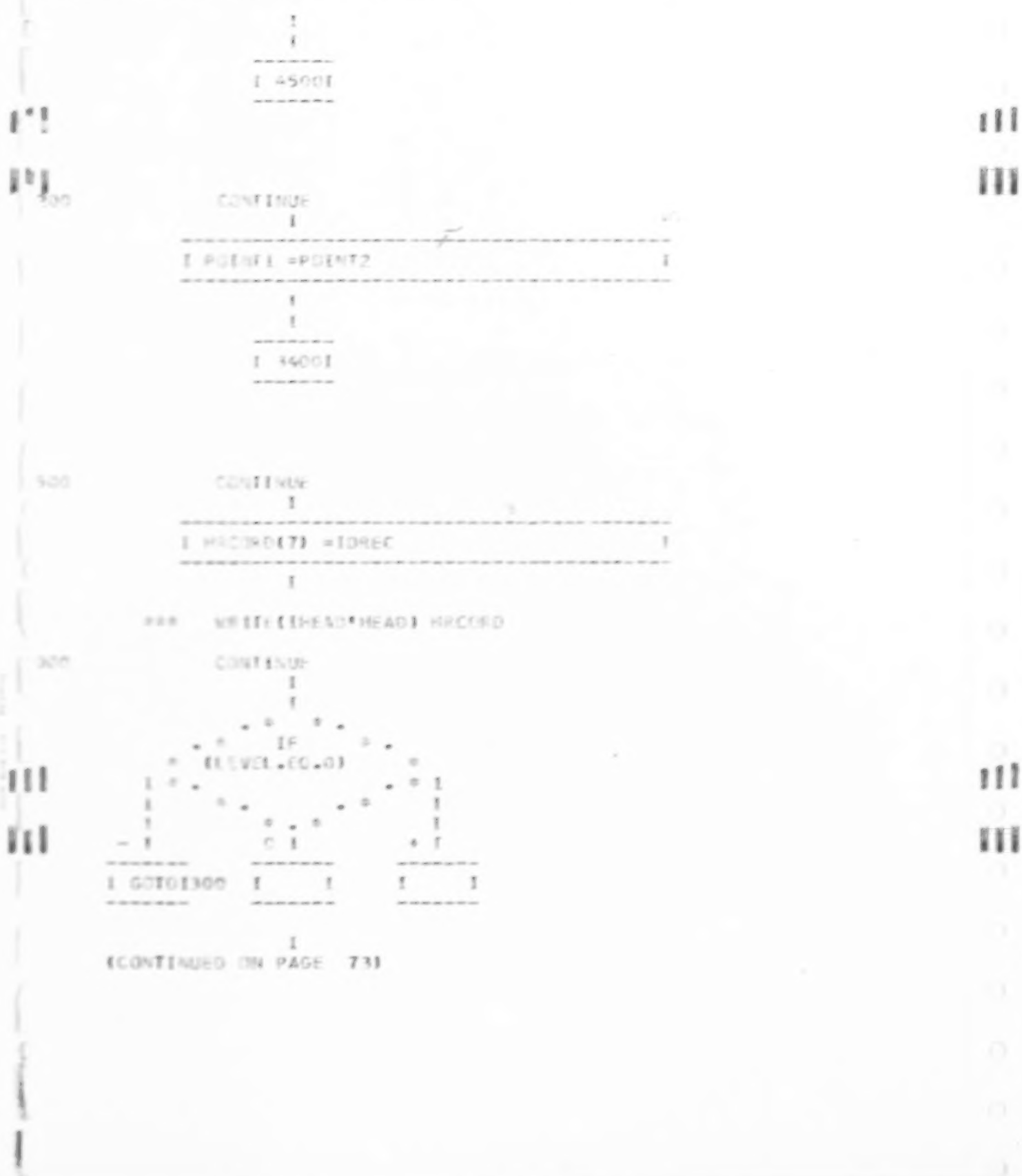

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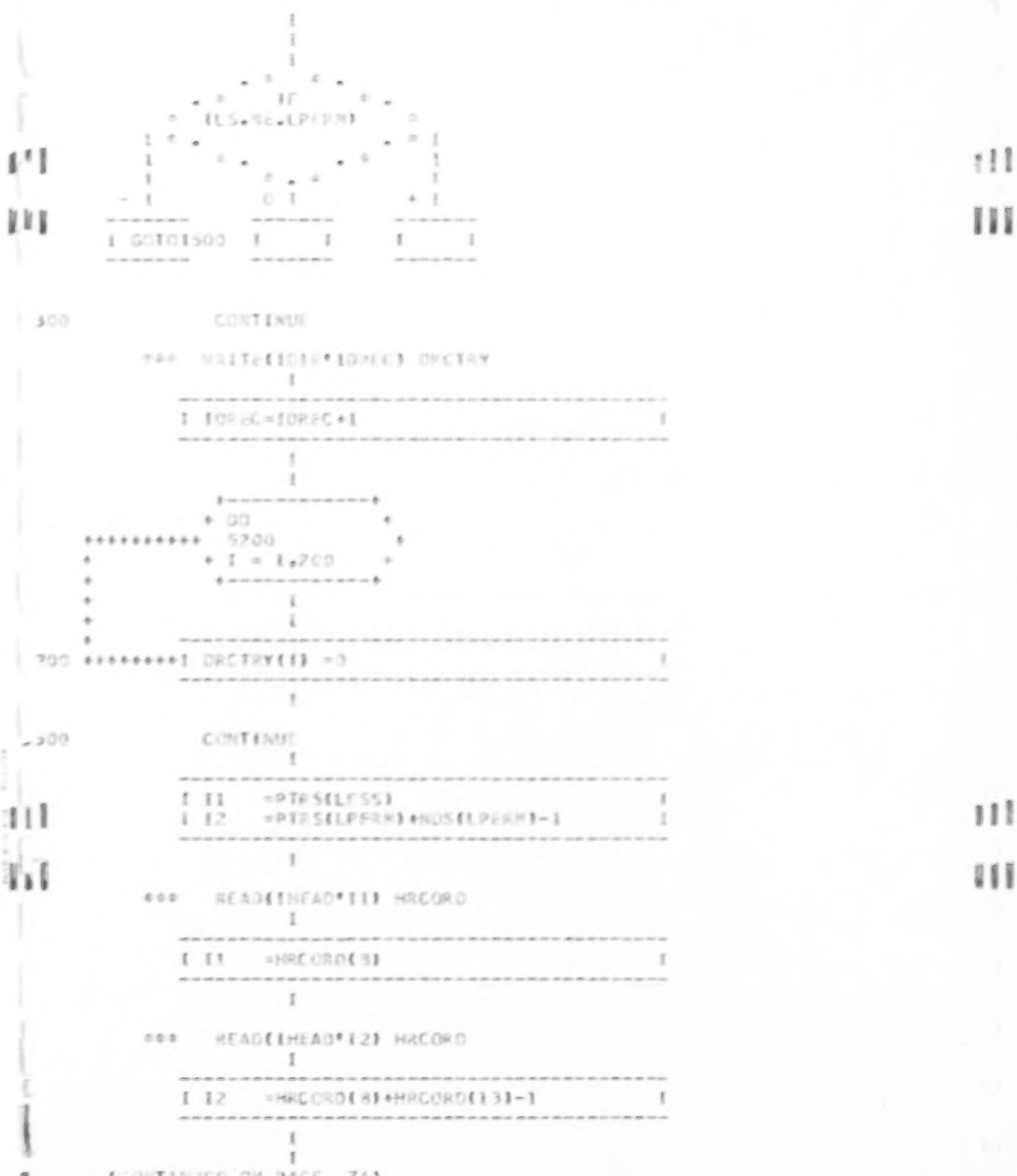

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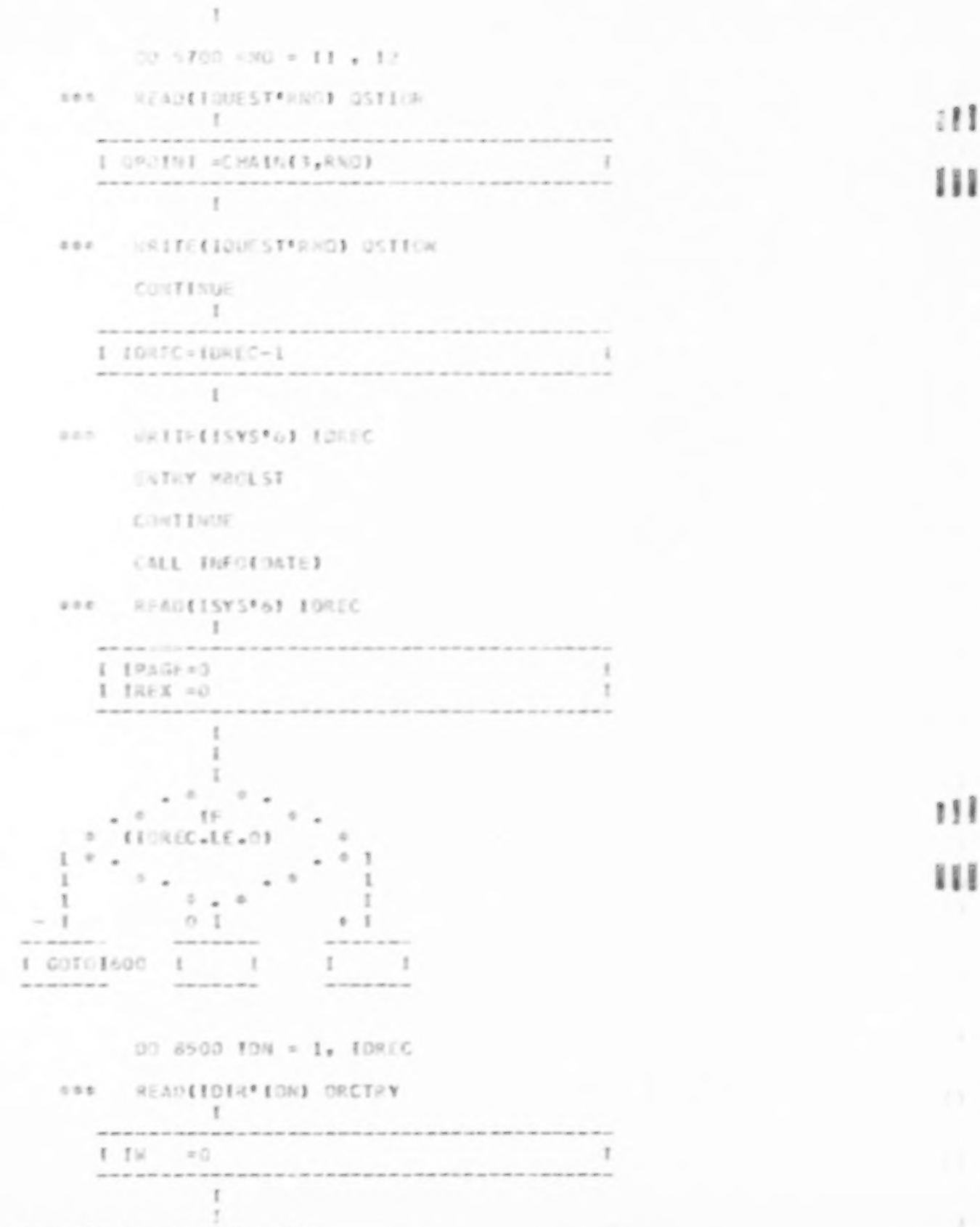

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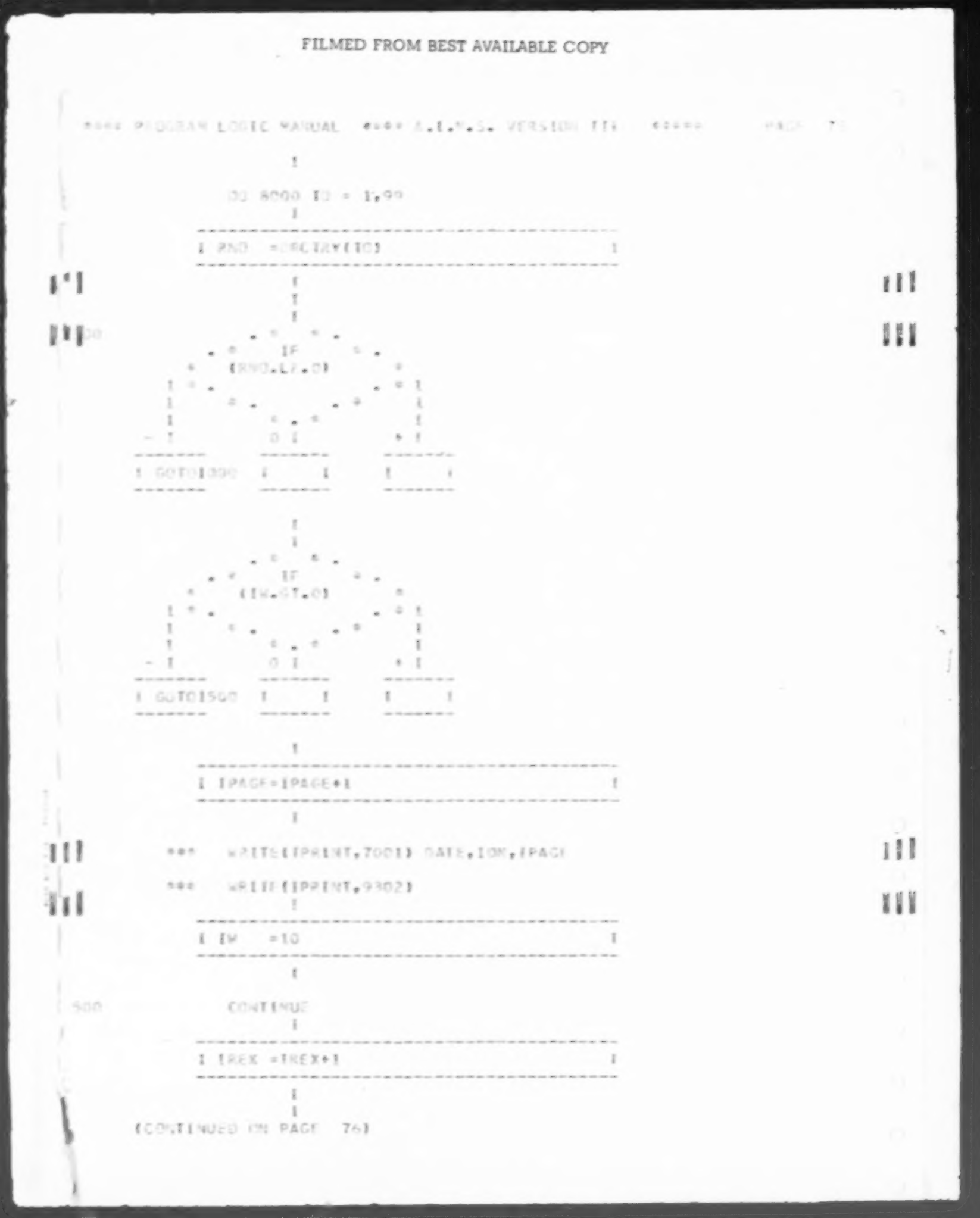

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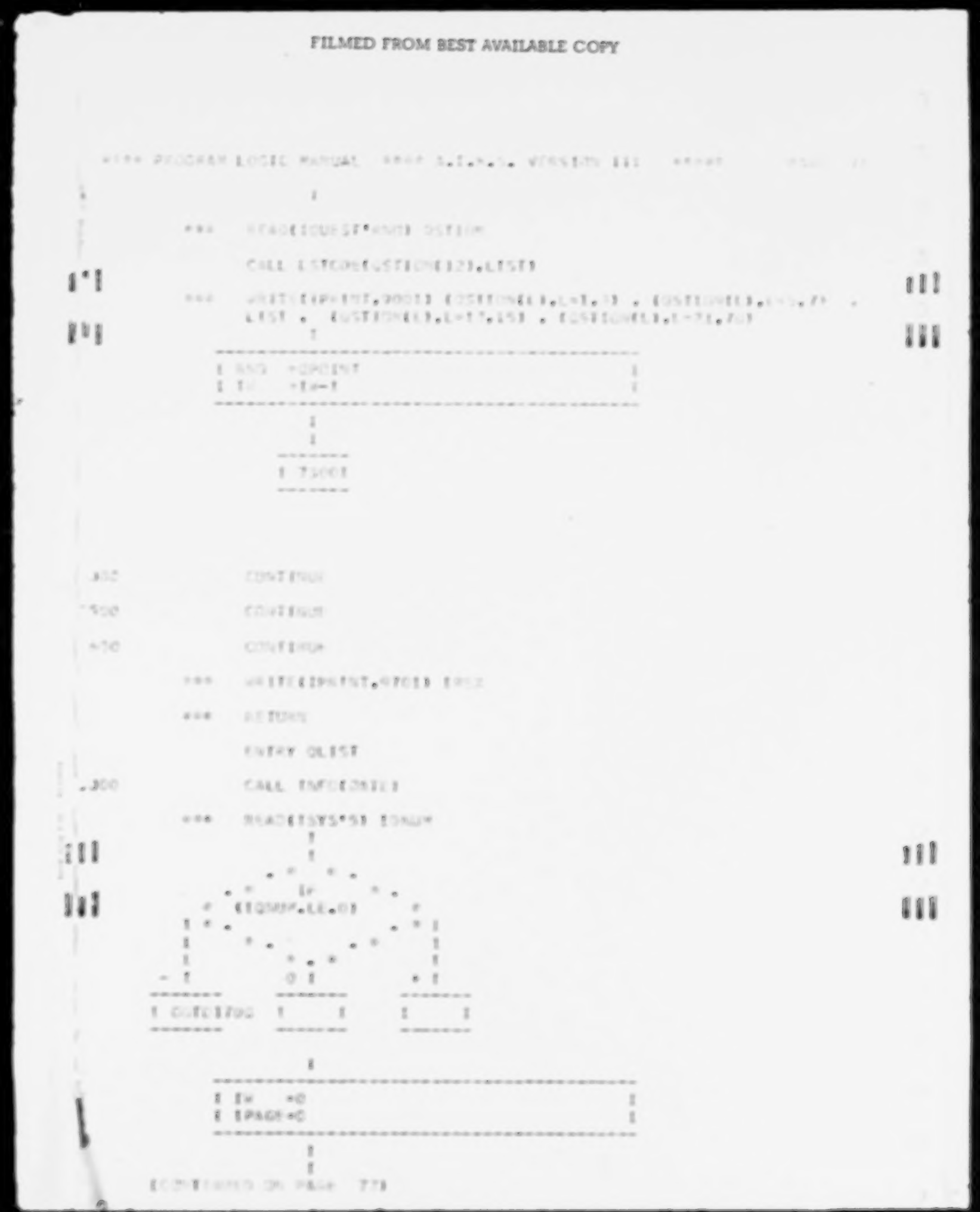

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```
                IPAGE=IPAGE+1

      ***       WRITE(IPRINT,9301) DATE, IPAGE

      ***       WRITE(IPRINT,9302)

                IW   =10

  500           CONTINUE

      ***       READ(IQUEST*IND) QSTION

                CALL LSTCOP(QSTION(12),LIST)

      ***       WRITE(IPRINT,9001) (QSTION(L),L=1,3) , (QSTION(L),L=5,7) ,
                LIST , (QSTION(L),L=13,15) , (QSTION(L),L=21,70)

                IW   =IW-1

  600           CONTINUE

 *900           CONTINUE

      ***       WRITE(IPRINT,9701) IQNUM

      ***       RETURN

 *9301          FORMAT(1H1 , 7X , '***  ',' SIMS MRD LISTING',
                    '  ***',  56X    ,'DATE', 2X , 2A4 ,   2X ,
                   2A4  , 1X,  2A4  /    13X  ,'SCOPE NUMBER',  I4  ,
                    62X  ,'PAGE'  ,  I4 ///)

      END OF FORTRAN DE PAGE  781
```

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```
                    I
001             FORMAT(2X , I2 , 3X , I2 , 2X , I1 , 2X ,I2 , I2 , I2 , I2 ,
               I2, 1X , 2A4 , 1X , I1 , 3X , I1 , 3X , I2 , 2X , I3 ,
               2X , I3 , 2X , I3 , 2X , I3 , 3X , I3 ,3X , I3 , 3X,
               I3 , 2X , I3 , 1X , I3 , '(I4)', I3 ) /1H0 ,I7A2, 3X ,
               I2A2,A1 / )

002             FORMAT( 1X , 'LESS' , 1X , 'SEC' , 1X , 'T' , 1X , 'ST' ,
               1X , 'TO', 1X , 'FO' , 1X , 'CORRECT', 1X , 'SKL' , 1X ,
               'SCL', 1X , 'MDIA' , 1X , 'PCT.' , 1X , 'VALU' , 1X ,'STD',
               1X , 'AVG' , 3X , 'AVG', 3X ,'N' , 5X , 'N' , 5X , 'HI' ,
               7X ,'LOW' , 1X , 'RESPONSE COUNTS' /
               23X , 'ANSWER' , 3X ,'1', 8X , '2' , 7X , 'BLIC' , 6X ,
               'DEV' , 1X , 'RT' , 1X , 'GP' , 1X , 'VG', 1X , 'GP' , 1X ,
               'RT' , 1X , 'GP' , 1X , 'VG' , 1X , 'GP' , 1X , 'GPP' ,
               1X , 'GPP' , 1X , 'BER', 8X , '5' , 3X , '8' , 3X , 'C' ,
               3X , 'D' , 3X , 'E' , 3X , 'F' , 3X , 'G' , 3X , 'H' , 3X ,
               'I' , 3X , 'J' / / )

003             FORMAT(1H1 , 7X , '***  ', 'AIMS DUTSEIDE LISTING' ,
                    '  ***', 5X , 'JOB', 2X, 2A4 , 2X ,
               2A4 , 1X , 2A4 / 91X , 'PAGE' , I4 ///)

004             FORMAT(1X,    Q(/) , 1X      ,
               'THERE ARE' , I4 , ' RECORDS IN THIS FILE' )

                END

                SUBROUTINE PROCESS(LESSON)

                COMMON/FILES/IN(15)

                COMMON/SYSTEM/IL(5)

                INTEGER DECKS

                INTEGER * 2 ANSWER(10,185),SECOND(10,185),QSTION(10,48,10),
               SAMPLE(60),SDEV(60),MEAN(60),MIN(60),MAX(60),REPLY(65,10),
               HEADER(65,10)

                EQUIVALENCE (REPLY(1,1),SECOND(1,1)),
               (HEADER(1,1),SECOND(10,80) )

                CALL OPSYS('LOAD','AIMSPRC2')

                CALL OPSYS('LOAD','AIMSTAPE')

                CALL PROC1(LESSON,DECKS,ANSWER,QSTION,REPLY,HEADER,
               SAMPLE,SDEV,MEAN,MIN,MAX )

                CALL OPSYS('LOAD','AIMSPRC3')

                CALL PROC2(LESSON,DECKS,ANSWER,SECOND,QSTION,
               SAMPLE,SDEV,MEAN,MIN,MAX )

                RETURN
                END
```

(CONTINUED ON PAGE 79)

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(CONTINUED ON PAGE 80)

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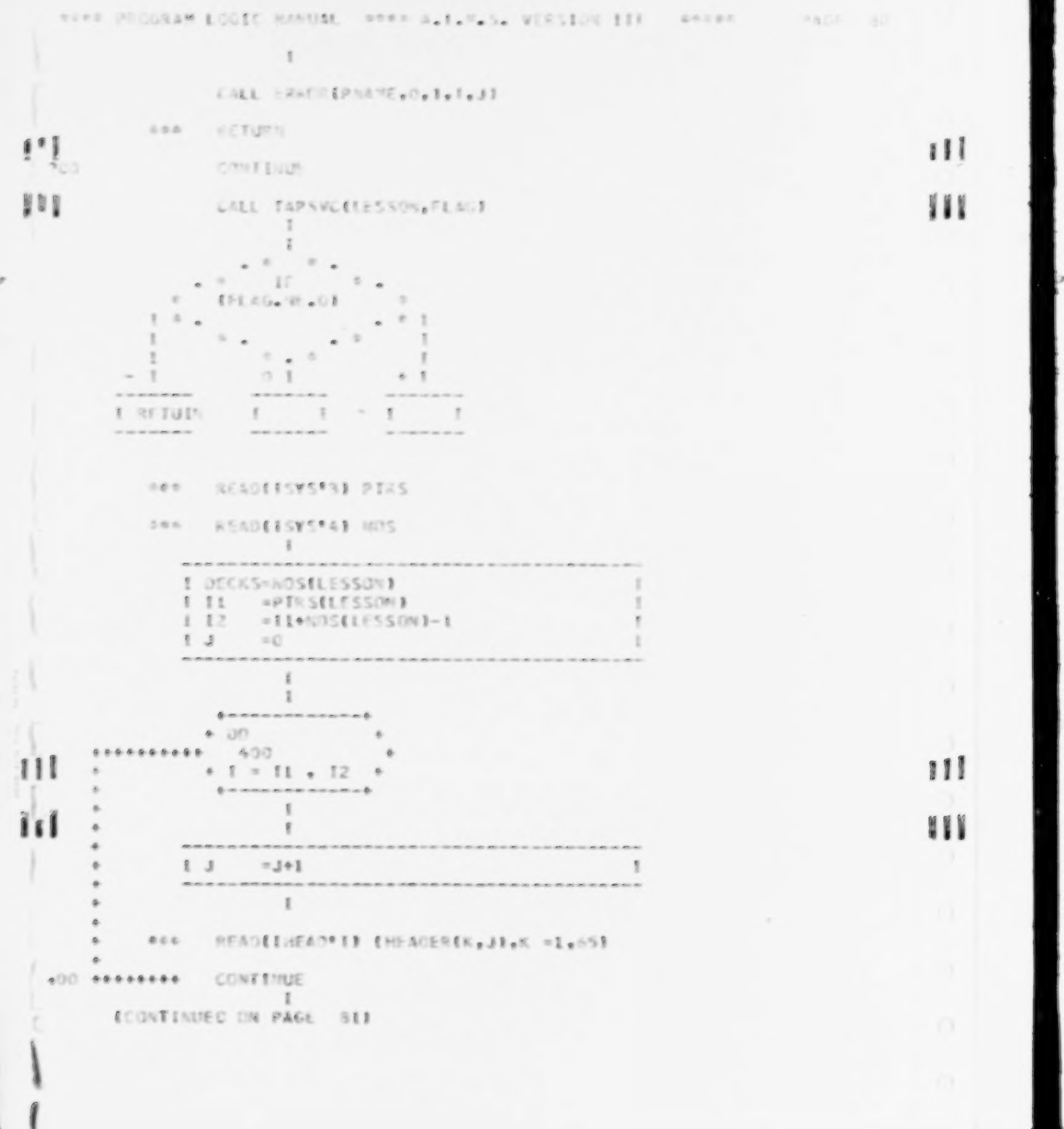

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```
                    I
                    I
                 +-------------+
                 + DO            +
      +++++++++++   500           +
      +          + K = 1, 10     +
      +           +-------------+
      +                 I                                          I
      +                 I                                          I
      +           +-------------+                                    I
      +          + DO            +                                 I
      +++++++++++   500           +
      +          + J = 1, 48     +
      +           +-------------+
      +                 I
      +                 I
      +           +-------------+
      +          + DO            +
      +++++++++++   600           +
      +          + I = 1,17      +
      +           +-------------+
      +                 I
      +
      +          2ST100(I,J,K) = 0
      +
  500 ++++++++++   CONTINUE
                    I
                 +-------------+
                 + DO            +
      +++++++++++   700           +
      +          + I = 1 , 10    +
      +           +-------------+
      +                 I
      +                 I
      +        ------------------------------------------
      +        I SUMSO(I) =0.0                           I
      +        I SUM(I) =0.0                             I
      +        ------------------------------------------
      +                 I
      +
  700 ++++++++++   CONTINUE                                       I
                    I
                 +-------------+                                  I
                 + DO            +                               I
      +++++++++++   800           +
      +          + I = 1,60      +
      +           +-------------+
      +                 I
      +                 I
      +        ------------------------------------------
      +        I MAX(I) =-1000                           I
      +        I MIN(I) =10000                           I
      +        I SDEV(I) =0                              I
      +        I SAMPLE(I) =0                            I
      +        I MEAN(I) =0                              I
      +        ------------------------------------------
      +                 I
      +                 I
```

(CONTINUED ON PAGE 82)

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```
                    I
                    I
                    I
```

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```
      CALL TPDATA( STDENT , FLAG , IRI ,COUNTR, REPLY)
```

(CONTINUED ON PAGE 84)

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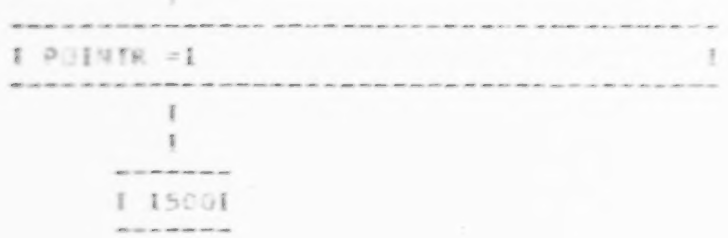


```
 900          CONTINUE
              GO TO(6000 ,1400 , 1200) , FLAG
 1200         CONTINUE
        ***   RETURN
 1400         CONTINUE
```

```
 1500         CONTINUE
```

(CONTINUED ON PAGE 85)

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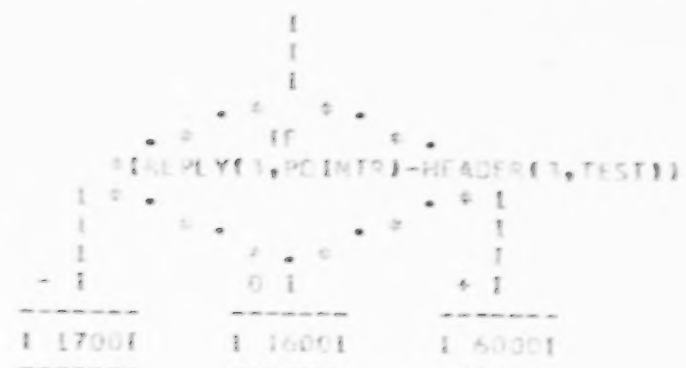

500 CONTINUE

700 CONTINUE

```
I I     =REPLY(1,POINTR)
I J     =REPLY(2,POINTR)
I K     =REPLY(3,POINTR)
I L     =REPLY(4,POINTR)
```

```
CALL ERROR(PNAME,0,S,I,J,K,L)
```

```
I POINTR =POINTR+1
```

```
900
```

800 CONTINUE

```
I TYPE =HEADER(4,TEST)
```

(CONTINUED ON PAGE 86)

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```
                    I
              NOOST=HEADER(13,TEST)
                    I
              ------------------------------------------
              ! SELECT =0                              !
              ! PSELCT =0                              !
              ! RITE =0                                !
              ! NOGRU=0                                !
              ------------------------------------------
                    !
                 DO 2000  I  = 1 , 17
                    I
              ------------------------------------------
              ! SCRTCH(I) =REPLY(I,POINTR)             !
              ------------------------------------------
                    I
2000              CONTINUE
                 DO 3000 QST = 1, NOOST
                    I
              ------------------------------------------
              ! QNO   =QST+17                          !
              ! ANS   =HEADER(QNO,TEST)                !
              ! RSP   =REPLY(QNO,POINTR)               !
              ! NO    =(PASS(ANS,RSP,NOPCH,COUNT)      !
              ------------------------------------------
                    I
                    I
                 +--------------+
                 + DO            +
      +++++++++  2100             +
      +          + I = 1, 11      +
      +          +--------------+
      +               I
      +
      +          OSTION(I,QST,TEST) = OSTION(I,QST,TEST) + COUNT(I)
      +
3000  ++++++++   CONTINUE
                    I
                    I
                  . * .
               . +   IF    + .
             +    (ANS.EQ.1)     +
          1 * .                 . * !
          1     * .         . *     !
          1         * . * .         !
        - 1         0 1           + !
        -------     -------     -------
        ( GOTO1600  I     I     I     I
        -------     -------     -------

                    I
        (CONTINUED ON PAGE  87)
```

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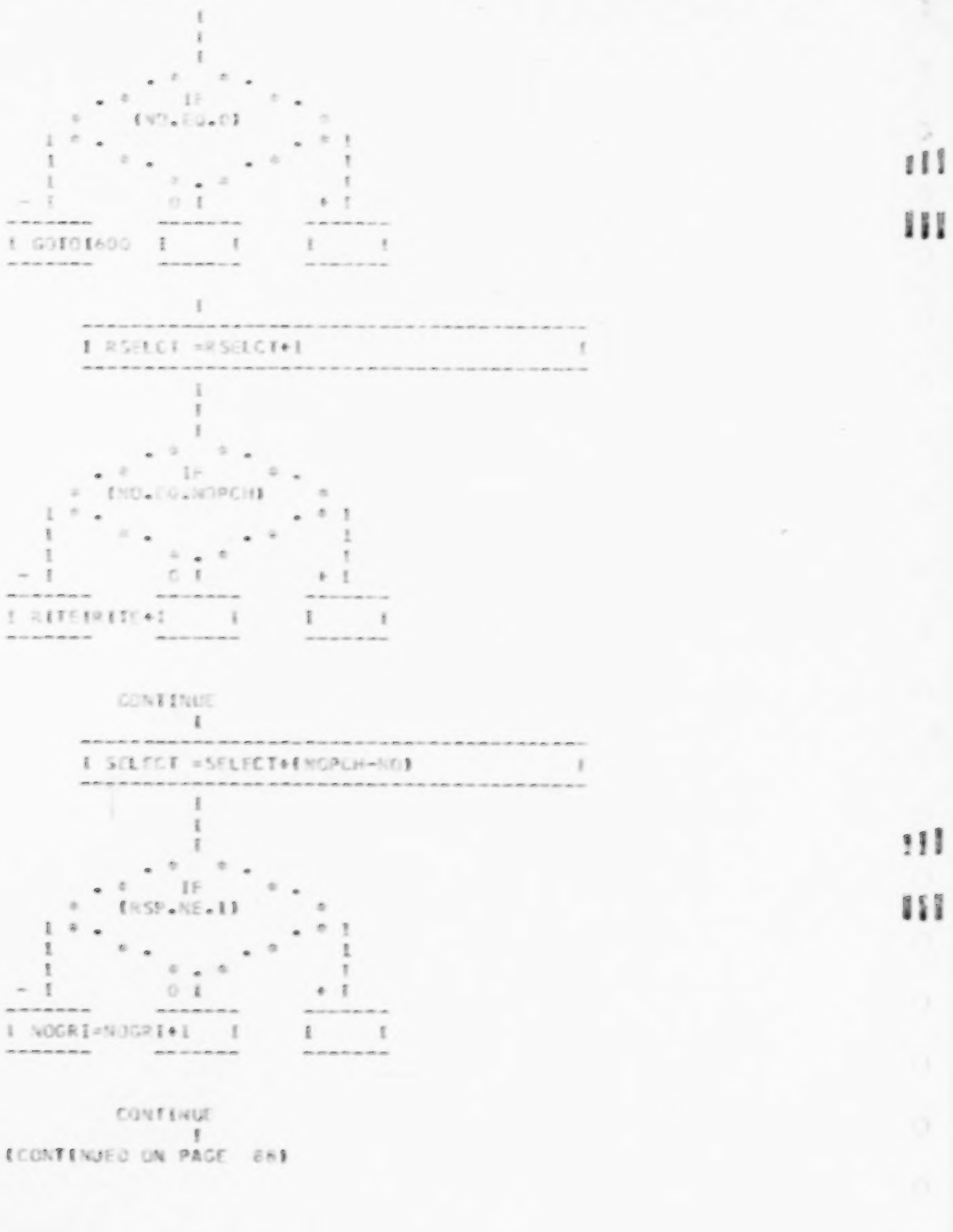

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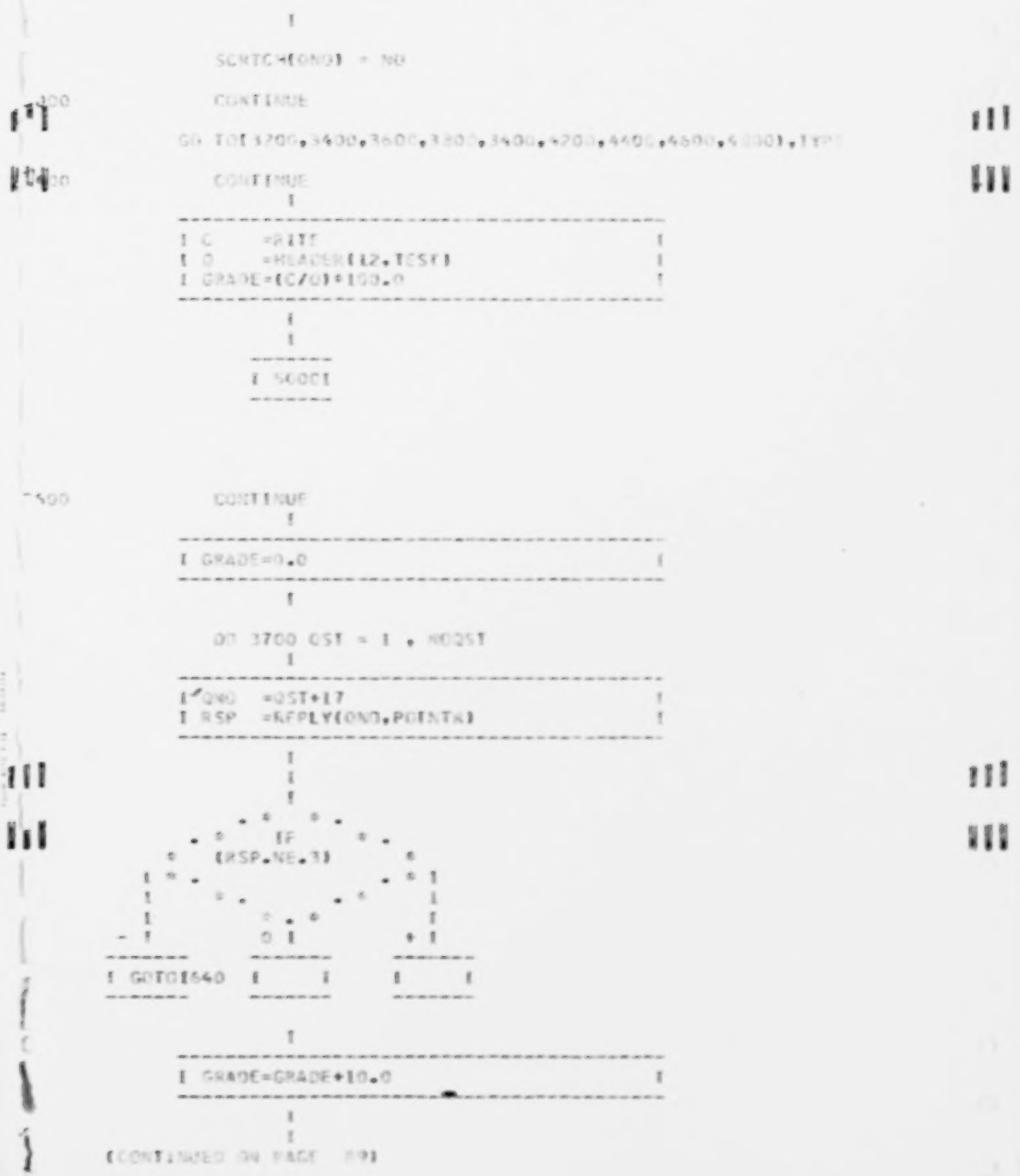

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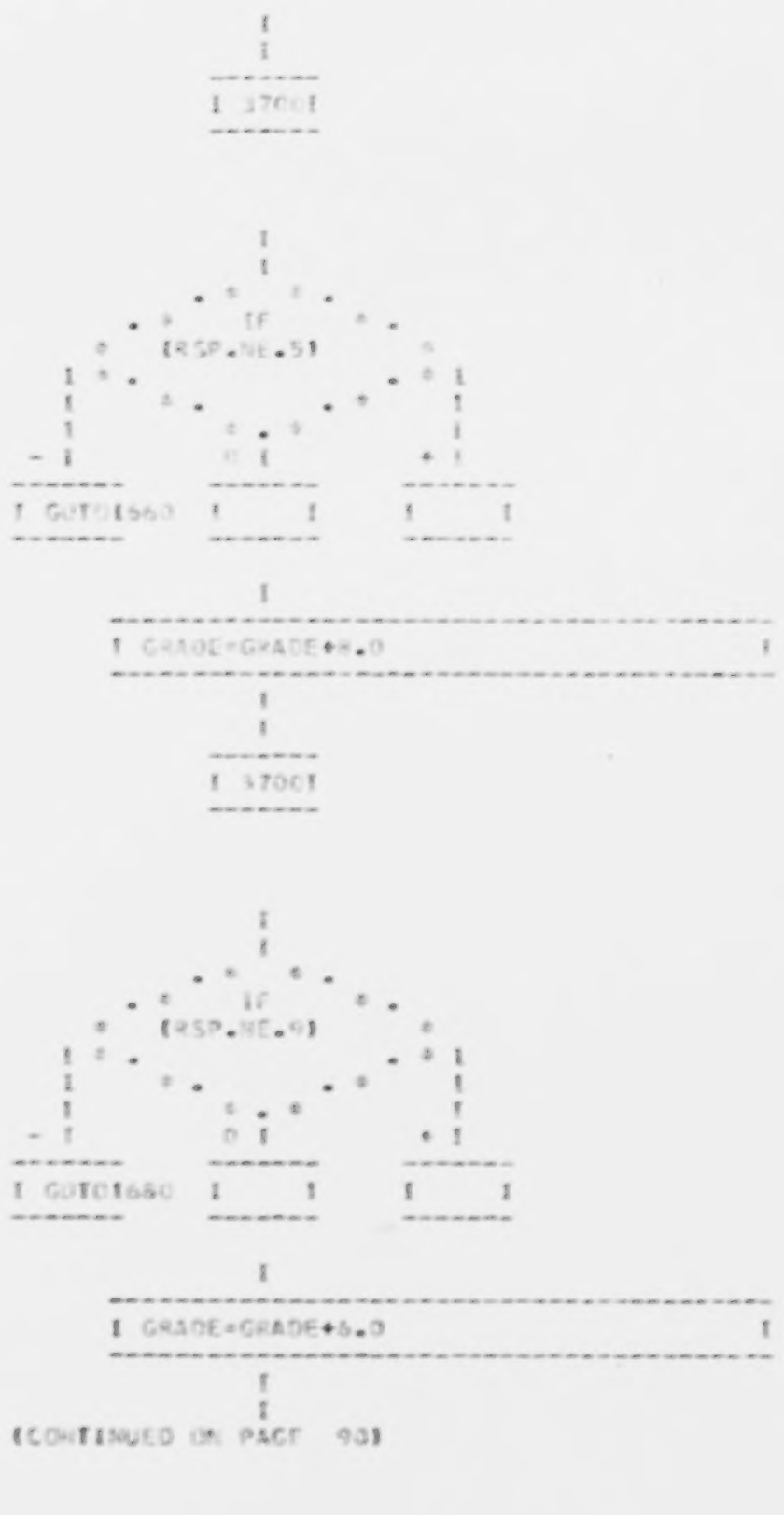

(CONTINUED ON PAGE 90)

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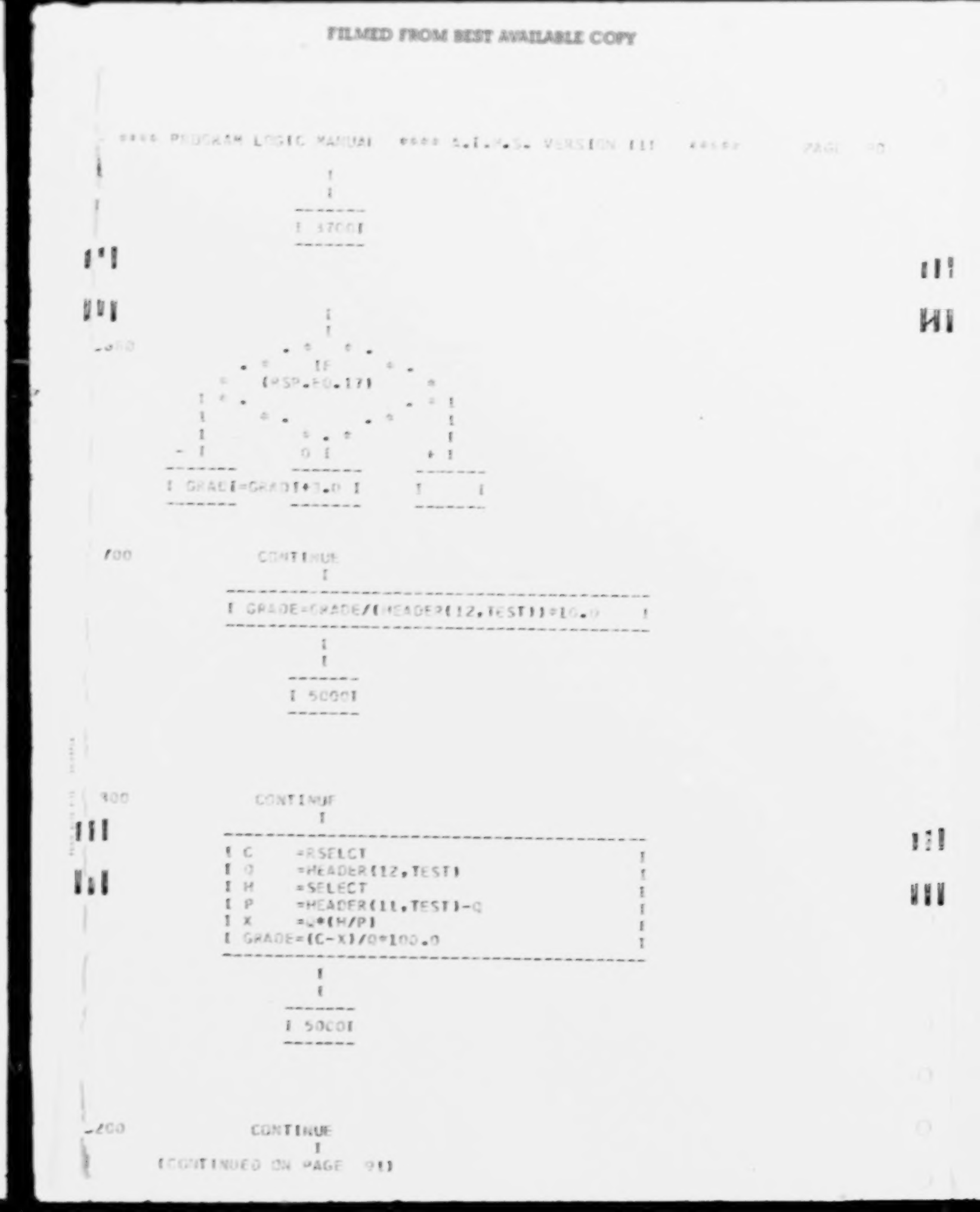

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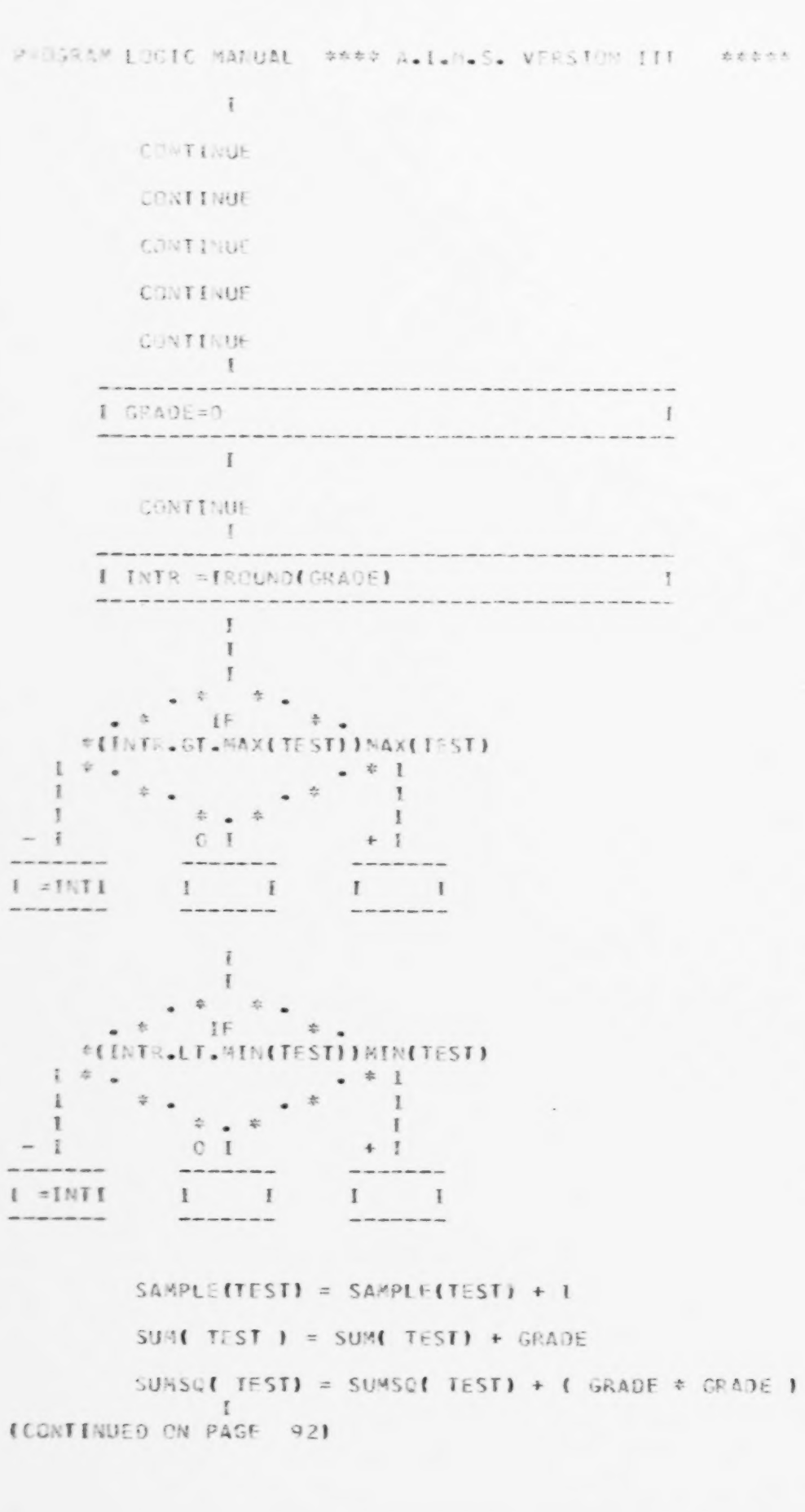

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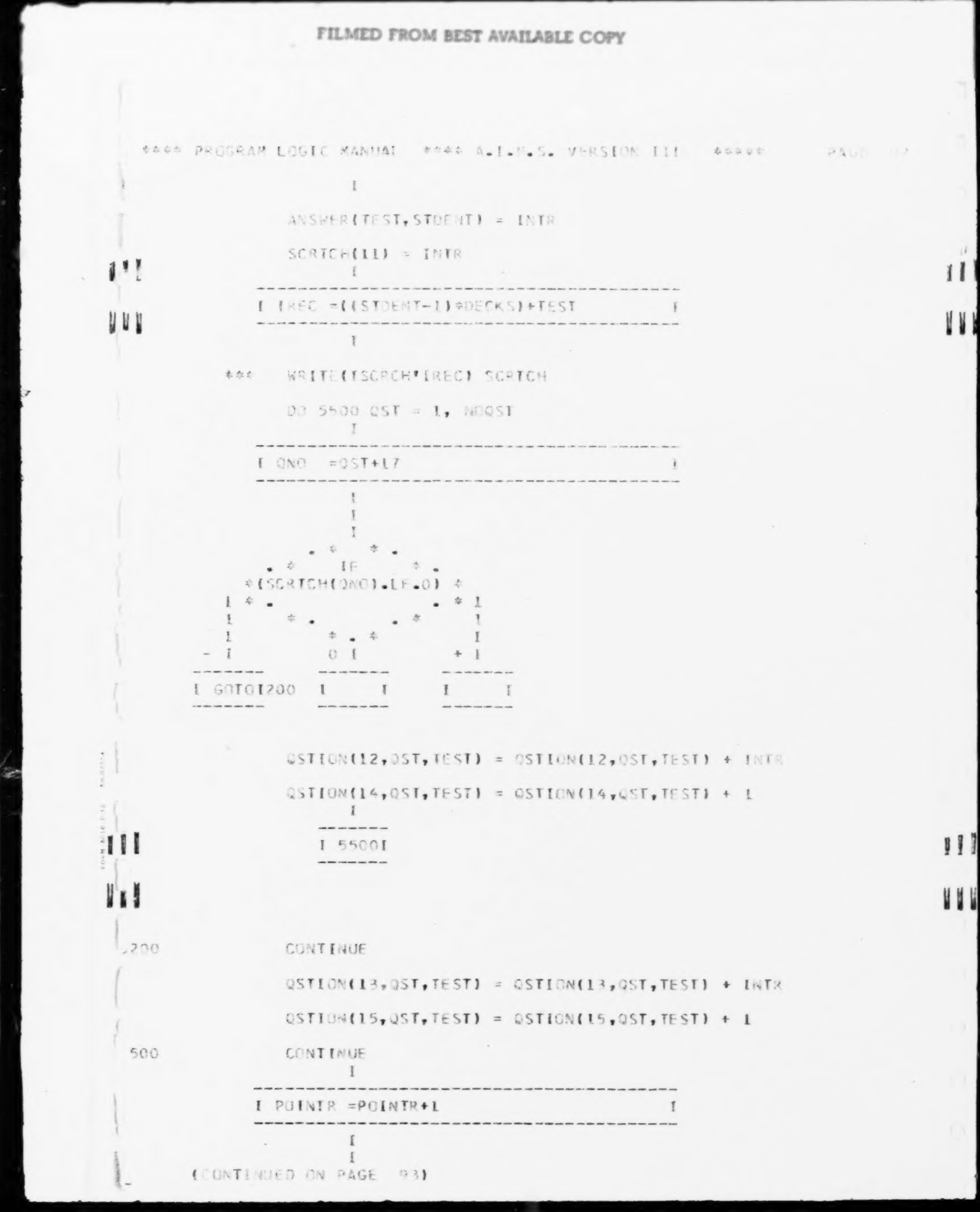

(CONTINUED ON PAGE 93)

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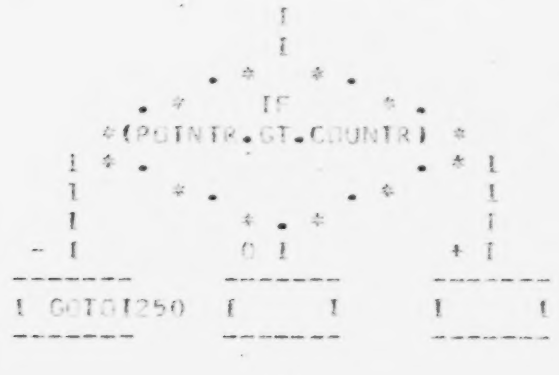


```
                I
      ------------------------------------------
      I DO5750N =POINTR,COUNTR                  I
      I I       =REPLY(1,M)                     I
      I J       =REPLY(2,M)                     I
      I K       =REPLY(3,M)                     I
      I L       =REPLY(4,M)                     I
      ------------------------------------------
                I
         CALL ERROR(PNAME,0,5,I,J,K,L)

         CONTINUE
   50          I
            -------
            I 6250I
            -------


  J00    CONTINUE

         ANSWER(TEST,STDENT) = -999
                I
      ------------------------------------------
      I IREC =((STDENT-1)*DECKS)+TEST           I
      ------------------------------------------
                I
                I
```

(CONTINUED ON PAGE 94)

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```
                    I
        ***    WRITE(ISCRCH'IREC) MISSED
1250            CONTINUE
1500            CONTINUE
                DO 8000 TEST = 1, DECKS
                    I
          ------------------------------------------
          I N     =SAMPLE(TEST)                    I
          ------------------------------------------
                    I
                    I
                    I
                 . * .
              . *  IF  * .
            *    (N.LE.0)     *
         1 * .                 . * 1
         1     * .         . *     1
         1       * . * .           I
       - I         0 I           + I
      -------     -------       -------
      I GOTO1500  I     I       I     I
      -------     -------       -------

                    I
          ------------------------------------------
          I A     =SUM(TEST)                       I
          I G     =A/N                             I
          ------------------------------------------
                    I
             MEAN(TEST) = IROUND(G)
                    I
                    I
                 . * .
              . *  IF  * .
            *    (N.GT.1)     *
         1 * .                 . * 1
         1     * .         . *     1
         1       * . * .           I
       - I         0 I           + I
      -------     -------       -------
      I GOTO1000  I     I       I     I
      -------     -------       -------

            SDEV(TEST) = 0
                    I
(CONTINUED ON PAGE  95)
```

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```
                    I
                    I
                 -------
                 I 8000I
                 -------

 300          CONTINUE
                    I
           ------------------------------------------
           I B     =A*A                             I
           I C     =N*SUMSQ(TEST)                   I
           I S     =N*(N-1)                         I
           I SS    =(C-B)/S                         I
           I SD    =SQRT(SS)                        I
           I SDEV(TEST) =IROUND(SD)                 I
           ------------------------------------------
                    I
                    I
                 -------
                 I 8000I
                 -------


 500          CONTINUE
                    I
           ------------------------------------------
           I MEAN(TEST) =-999                       I
           I SDEV(TEST) =-999                       I
           I MAX(TEST) =-999                        I
           I MIN(TEST) =-999                        I
           ------------------------------------------
                    I

 900          CONTINUE

      ***     RETURN

              END

               SUBROUTINE PROC1(LESSON,DECKS, ANSWER , QSTION, REPLY,HEADER ,
               SAMPLE , SDEV, MEAN , MIN, MAX )

               COMMON/SYSTEM/NLESS,NDECK,NREX,NQUEST,NSTUD

               COMMON/FILES/IW1(2),IPRINT,IRESP,ISCRCH, IHEAD,IW2,IQUEST,
                 ISTDNT, ISCORE ,  IW3 ,  ISYS , IW4 , LISP,IW5

               INTEGER * 2 NAVY(65)

               INTEGER * 2 QRCORD(13), CATGRY

               EQUIVALENCE (CATGRY,QRCORD(13))
                    I
      (CONTINUED ON PAGE  96)
```

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```
                I

              INTEGER *2 LPERM ,NOS(50),  PTRS(50) , HEADER(65,10) ,POINTR,
              NOPCH,COUNT(11), SCRTCH(65)

              INTEGER PNAME(2),FLAG  , DECKS , TEST  , TYPE , STUENT, GOOST,
              SELECT, RSELCT , RITE , WRONG , WRONG2 , QST

              DATA PNAME/'PROC','ESS'/

              INTEGER * 2 REPLY(65,10) , QSTION(18,48,10) , ANSWER(10,185) ,
              MEAN(60) , SDEV(60) ,SAMPLE(60),MAX(60) , MIN(60), ANS, RSP

        ***   REAL * 8      A , B , C , SUMSQ(10) , SUM(10)

              INTEGER ENDFIL , COUNTR, LRT , POINTR , QNO

              INTEGER * 2 MISSED

              DATA MISSED/-999/
                I
           ----------------------------------------
           I IROUND(E) =E+0.5                     I
           ----------------------------------------
                I

        ***   READ(ISYS'2) LPERM
                I
                I
              . *   * .
            . *    IF     * .
          *(LESSON.GT.0.AND.LESSON.LE.LPERM)
        I * .                  . * I
        I     * .          . *     I
        I         * . *            I
      - I         0 I            + I
     -------     -------      -------
     I GOTOI00   I     I      I     I
     -------     -------      -------

                I
           ----------------------------------------
           I I    =LESSON                         I
           I J    =LPERM                          I
           ----------------------------------------
                I

              CALL ERROR(PNAME,0,1,I,J)

        ***   RETURN

  200         CONTINUE

              CALL TAPSVC(LESSON,FLAG)
                I
```

(CONTINUED ON PAGE 97)

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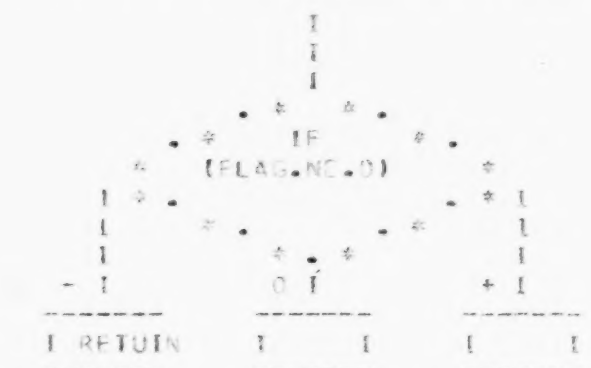


```
      ***   READ(ISYS'3) PTRS

      ***   READ(ISYS'4) NOS
                 I
      ------------------------------------------
      I DECKS=NOS(LESSON)                      I
      I I1   =PTRS(LESSON)                     I
      I I2   =I1+NOS(LESSON)-1                 I
      I J    =0                                I
      ------------------------------------------
                 I
                 I
              +------------+
             + DO           +
+++++++++++   400            +
+            + I = I1 , I2   +
+             +------------+
+                  I
+                  I
+       ------------------------------------------
+       I J    =J+1                              I
+       ------------------------------------------
+                  I
+
+     ***   READ(IHEAD'I) (HEADER(K,J),K =1,65)
+                  I
+       ------------------------------------------
+       I NOQST=HEADER(13,J)                     I
+       I QNO  =HEADER(8,J)-1                    I
+       ------------------------------------------
+                  I
+
+          DO 300 QST = 1 , NOQST
+                  I
+       ------------------------------------------
+       I IREC =QNO+QST                          I
+       ------------------------------------------
+                  I
+
+     ***   READ(IQUEST'IREC) QRCORD
+                  I
```

(CONTINUED ON PAGE 98)

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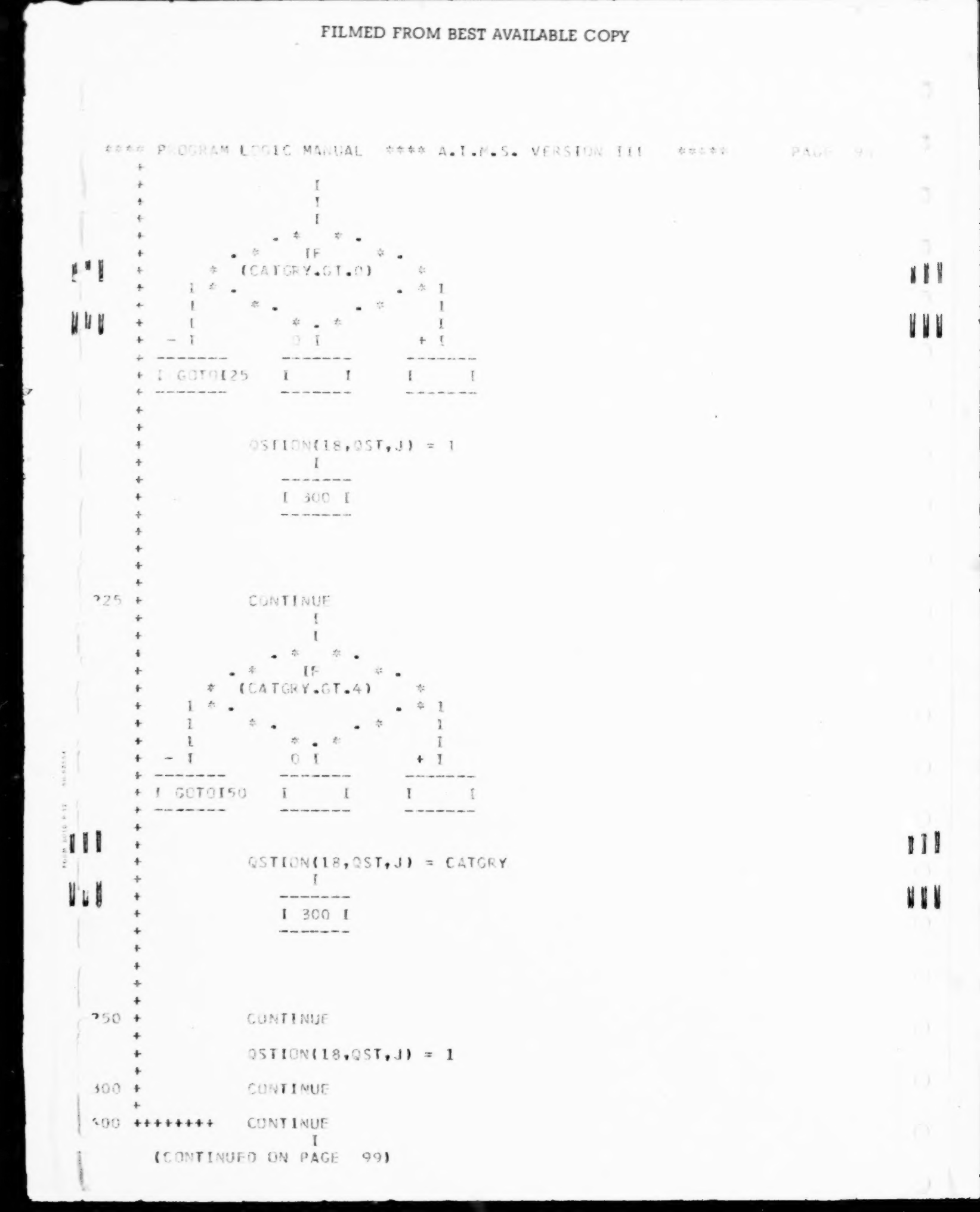

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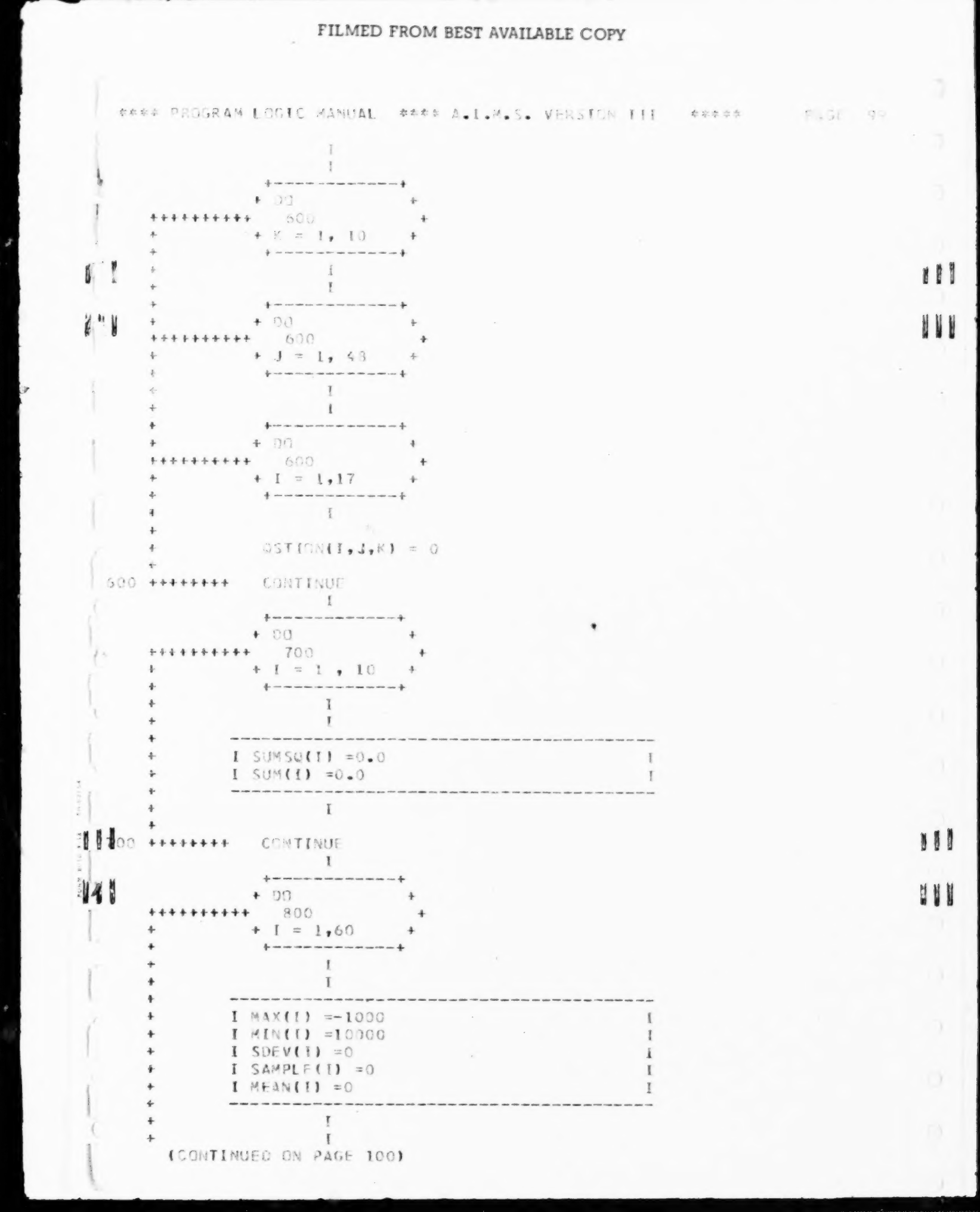

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```
                    I
                    I
000 ++++++++    CONTINUE
                    I
              ------------------------------------------
              I ENDFIL =0                              I
              ------------------------------------------
                    I
          ***   READ(ISYS'1) ROSTER
                    I
                    I
                  . * .   * .
                . * .   IF      * .
              * .  (ROSTER.GT.0)    *
            1 * .                   . * 1
            I     * .           . *     1
            1       * . *       . *     I
          - I         0 1         + I
         -------     -------     -------
         I GOTO150   I     I     I     I
         -------     -------     -------

                    CALL ERROR(PNAME,0,6)

          ***   RETURN

 650                CONTINUE

                    DO 6500 STDENT = 1, ROSTER
                      I
                    +-------------+
                   + DO            +
          ++++++++++   875           +
          +        + I = 1,10       +
          +         +-------------+
          +               I
          +
          +         ANSWER(I,STDENT) = 0
          +
 875 ++++++++    CONTINUE
                    I
              ------------------------------------------
              I COUNTR =0                              I
              I LRI  =0                                I
              I POINTR =1                              I
              ------------------------------------------
                    I

                    DO 6250 TEST = 1 , DECKS
                      I
```

(CONTINUED ON PAGE 101)

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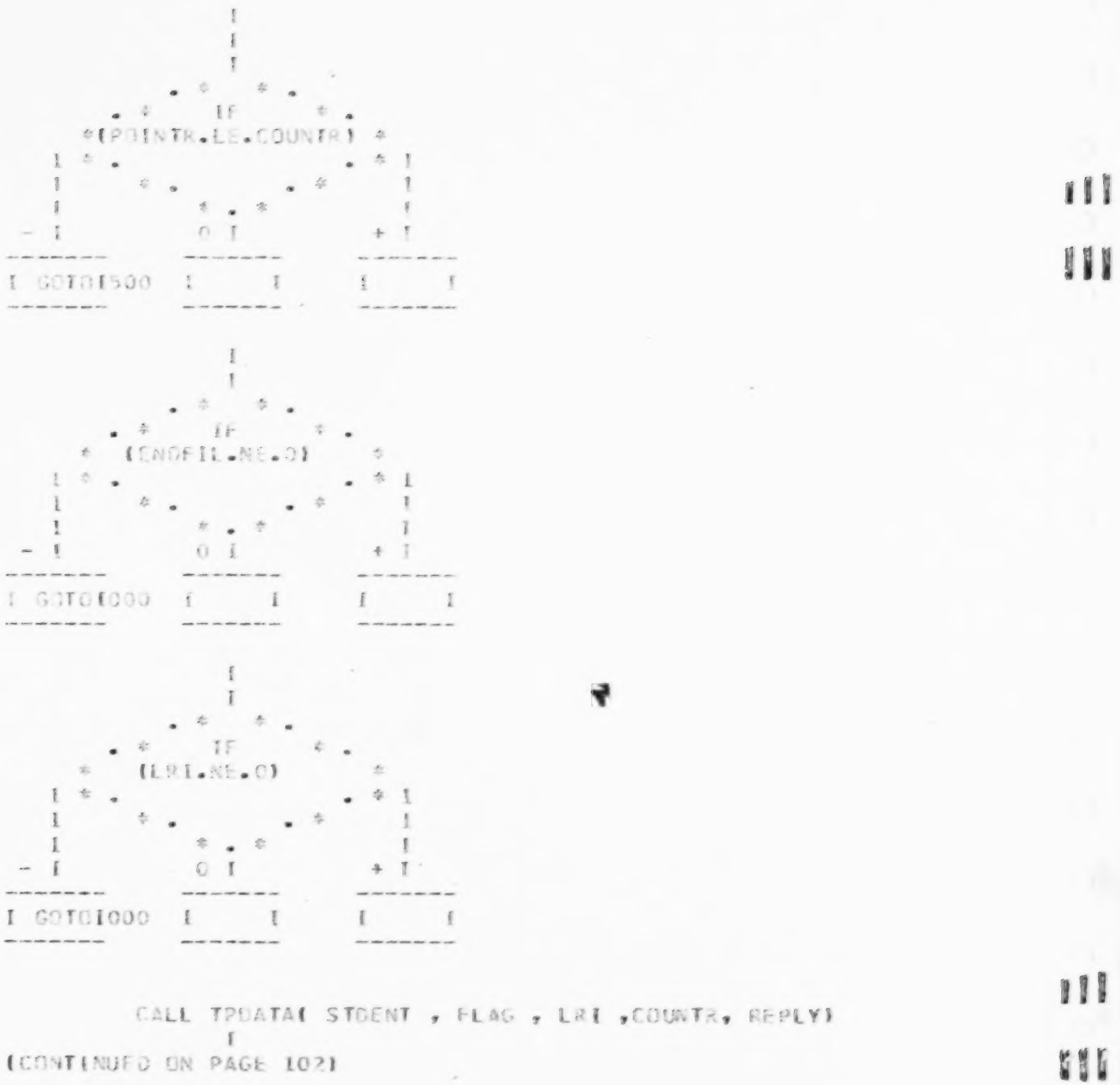


```
      CALL TPDATA( STDENT , FLAG , LRI ,COUNTR, REPLY)
```

(CONTINUED ON PAGE 102)

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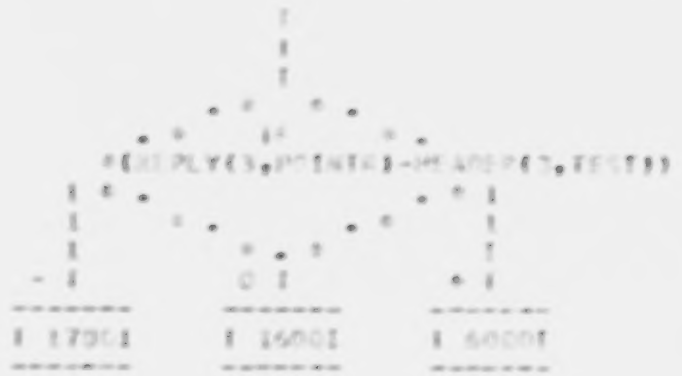

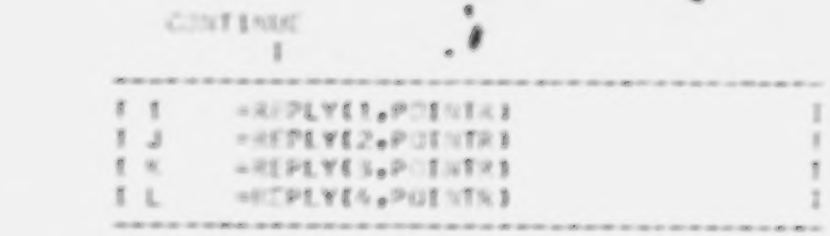

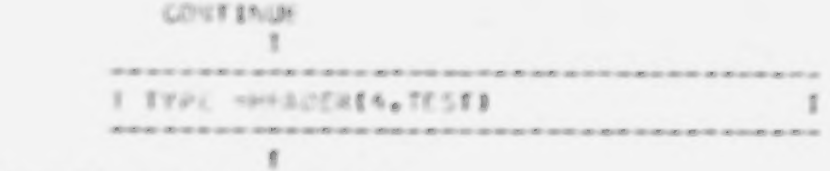

(CONTINUED ON PAGE 1048)

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```
                    !
              NQQST=HEADER(1,TEST)

                 DO 2000  I  = 1 , 17
                    !
              ------------------------------------------
              ! SCRTCH(I) =REPLY(I,POINTER)            !
              ! NAVY(I) =SCRTCH(I)                     !
              ------------------------------------------
                    !
 2000               CONTINUE
                    !
              ------------------------------------------
              ! DIVQNO =0.0                            !
              ! VALUE=0.0                              !
              ! NQRIT=0                                !
              ------------------------------------------
                    !
                 DO 3000 QST = 1, NQQST
                    !
              ------------------------------------------
              ! QNO  =QST*17                           !
              ! ANS  =HEADER(QNO,TEST)                 !
              ! RSP  =REPLY(QNO,POINTER)               !
              ! NO   =IPASS(ANS,RSP,*[illegible]       !
              ------------------------------------------
                    !
                 SCRTCH(QNO) = NO
                    !
                   +-------------+
                  + DO            +
 ++++++++++++++  2100             +
 +               + I = 1, 11     +
 +                +-------------+
 +                      !
 +
 +                QSTION(I,QST,TEST) = QSTION(I,QST,TEST) + COUNT(I)
 +
 3000 ++++++++    CONTINUE
                        !
                        !
                    . *   * .
                . *     IF      * .
              *     (ANS.EQ.1)        *
           ! * .                     . * !
           !     * .               . *   !
           !         * . *             !
         - !           0 !           * !
        -------       -------       -------
        ! GOTO1000  !     !       !     !
        -------       -------       -------

                        !
        (CONTINUED ON PAGE 105)
```

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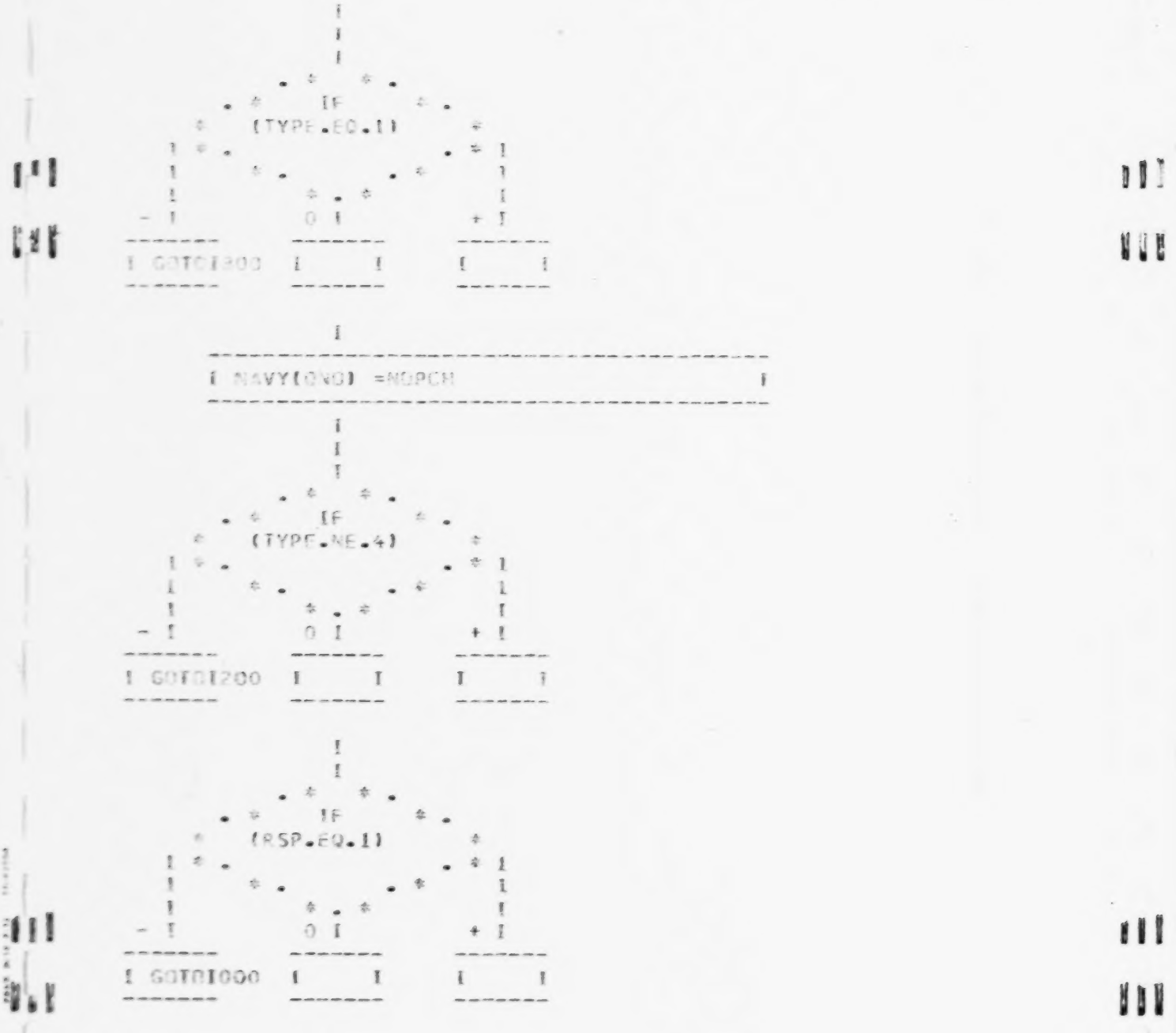

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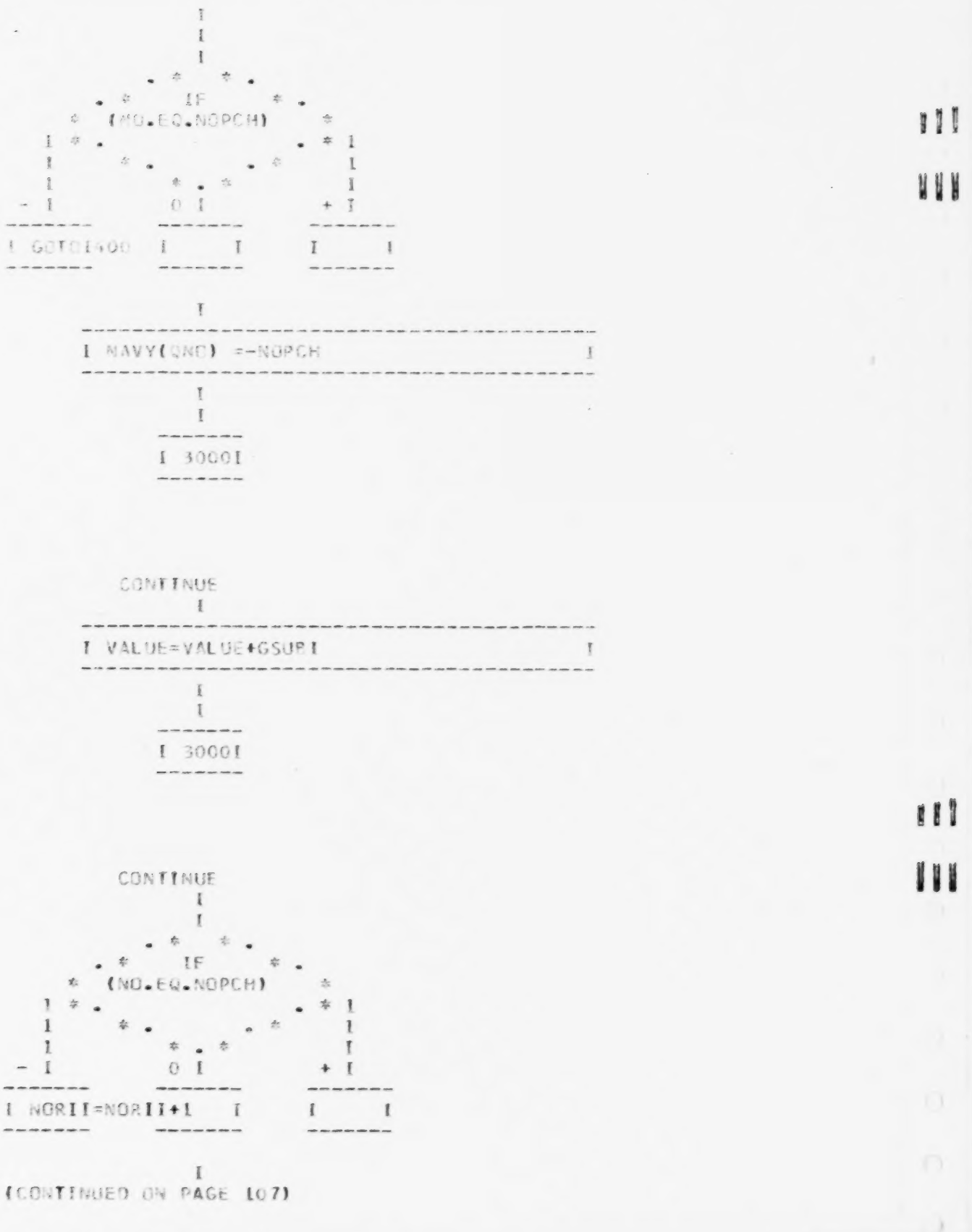

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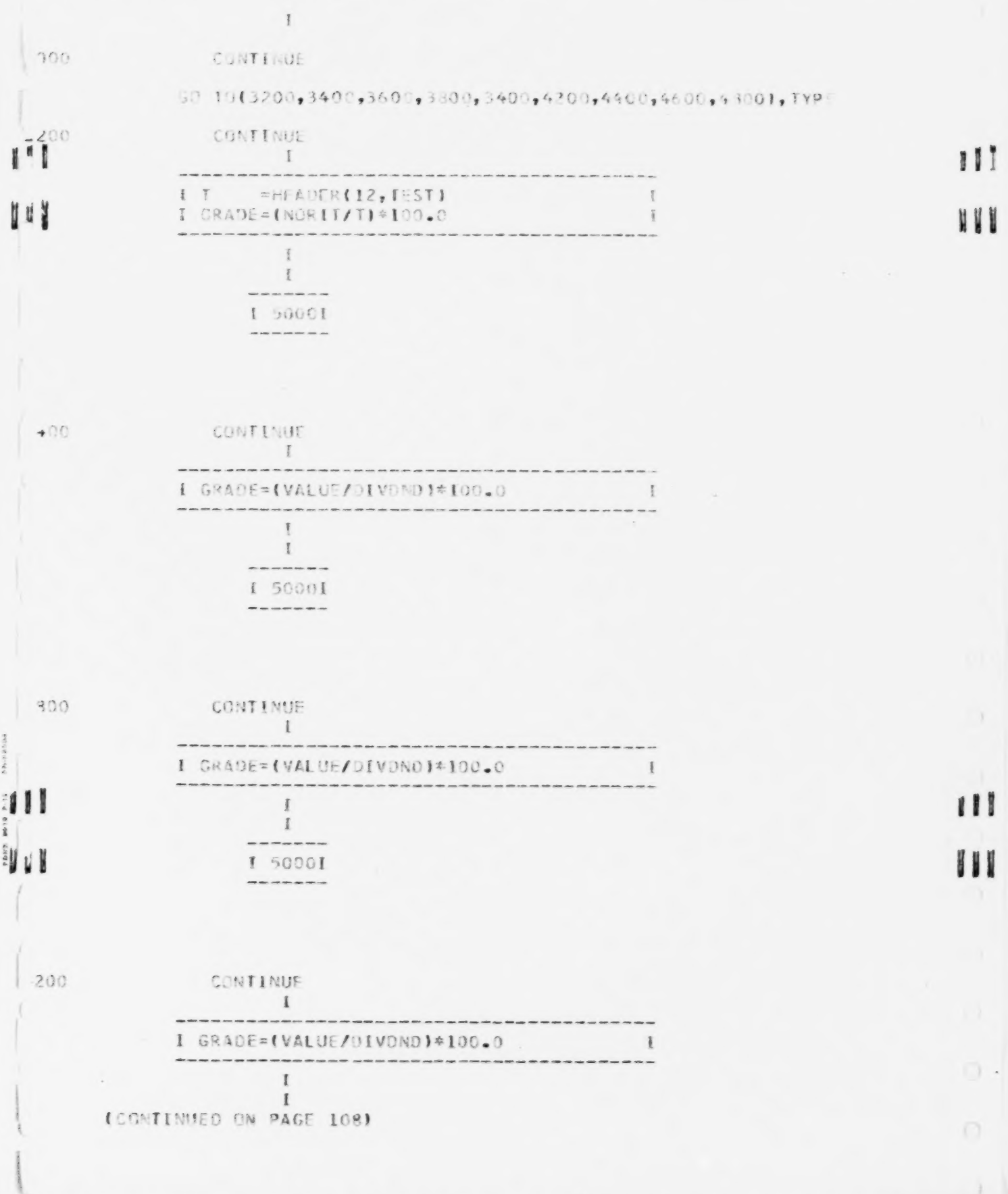

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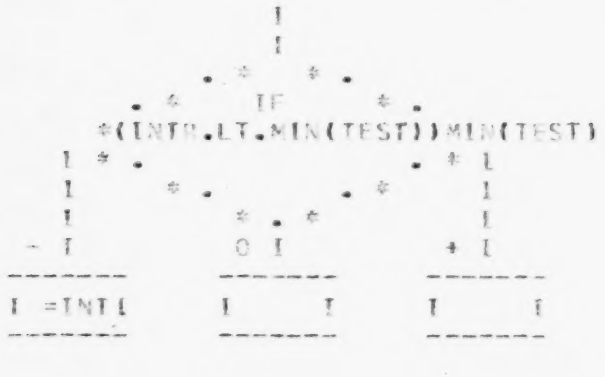


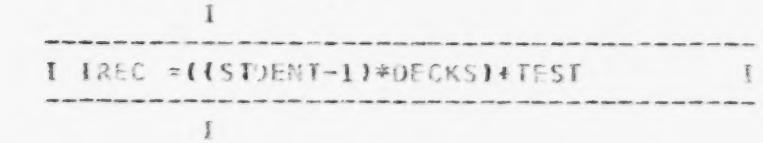

```
      SAMPLE(TEST) = SAMPLE(TEST) + 1

      SUM( TEST ) = SUM( TEST) + GRADE

      SUMSQ( TEST) = SUMSQ( TEST) + ( GRADE * GRADE )

      ANSWER(TEST,STDENT) = INTR

      SCRTCH(11) = INTR
```




```
C     ***   WRITE(ISCRCH'IREC) SCRTCH

      DO 5500 QST = 1, NOQST
```

(CONTINUED ON PAGE 110)

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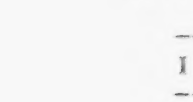
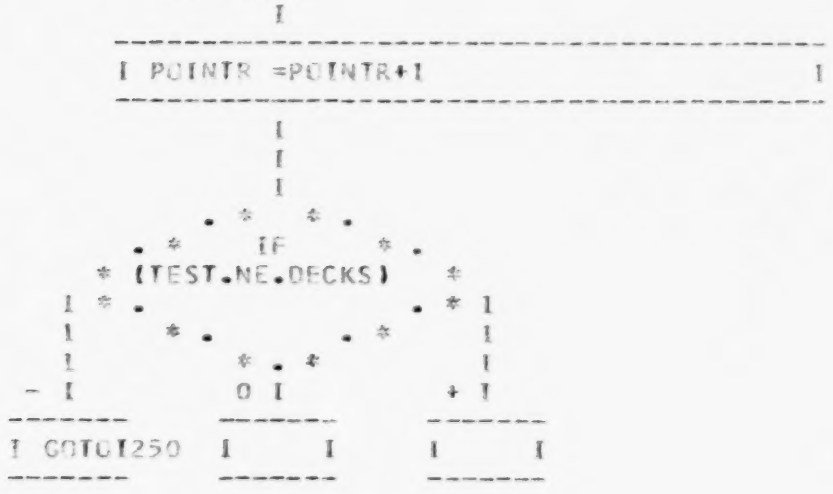
```
            QSTION(12,QST,TEST) = QSTION(12,QST,TEST) + INTR
            QSTION(14,QST,TEST) = QSTION(14,QST,TEST) + 1
```




```
200         CONTINUE
            QSTION(13,QST,TEST) = QSTION(13,QST,TEST) + INTR
            QSTION(15,QST,TEST) = QSTION(15,QST,TEST) + 1
500         CONTINUE
```



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```
                    I
                    I
                    I
                  * * *
                * *  IF  * *
              * *  (POINTR.GT.COUNTR)  * *
            I * *                     * * I
            I     * *               * *   I
            I         * * *   * * *       I
          - I           0 I           + I
          -------       -------       -------
          I GOTO1250 I     I       I     I
          -------       -------       -------

                    I
          ------------------------------------------
          I 005750M =POINTR,COUNTR                 I
          I I     =REPLY(1,M)                      I
          I J     =REPLY(2,M)                      I
          I K     =REPLY(3,M)                      I
          I L     =REPLY(4,M)                      I
          ------------------------------------------
                    I
             CALL ERROR(PNAME,0,5,I,J,K,L)

 750         CONTINUE
                    I
                -------
                I 6250I
                -------



 900         CONTINUE

             ANSWER(TEST,STDENT) = -999
                    I
          ------------------------------------------
          I IREC =((STDENT-1)*DECKS)+TEST          I
          ------------------------------------------
                    I

       ***    WRITE(ISCRCH'IREC) MISSED

 6250        CONTINUE

 500         CONTINUE

             DO 8000 TEST = 1, DECKS
                    I
          ------------------------------------------
          I N     =SAMPLE(TEST)                    I
          ------------------------------------------
                    I
                    I
```

(CONTINUED ON PAGE 112)

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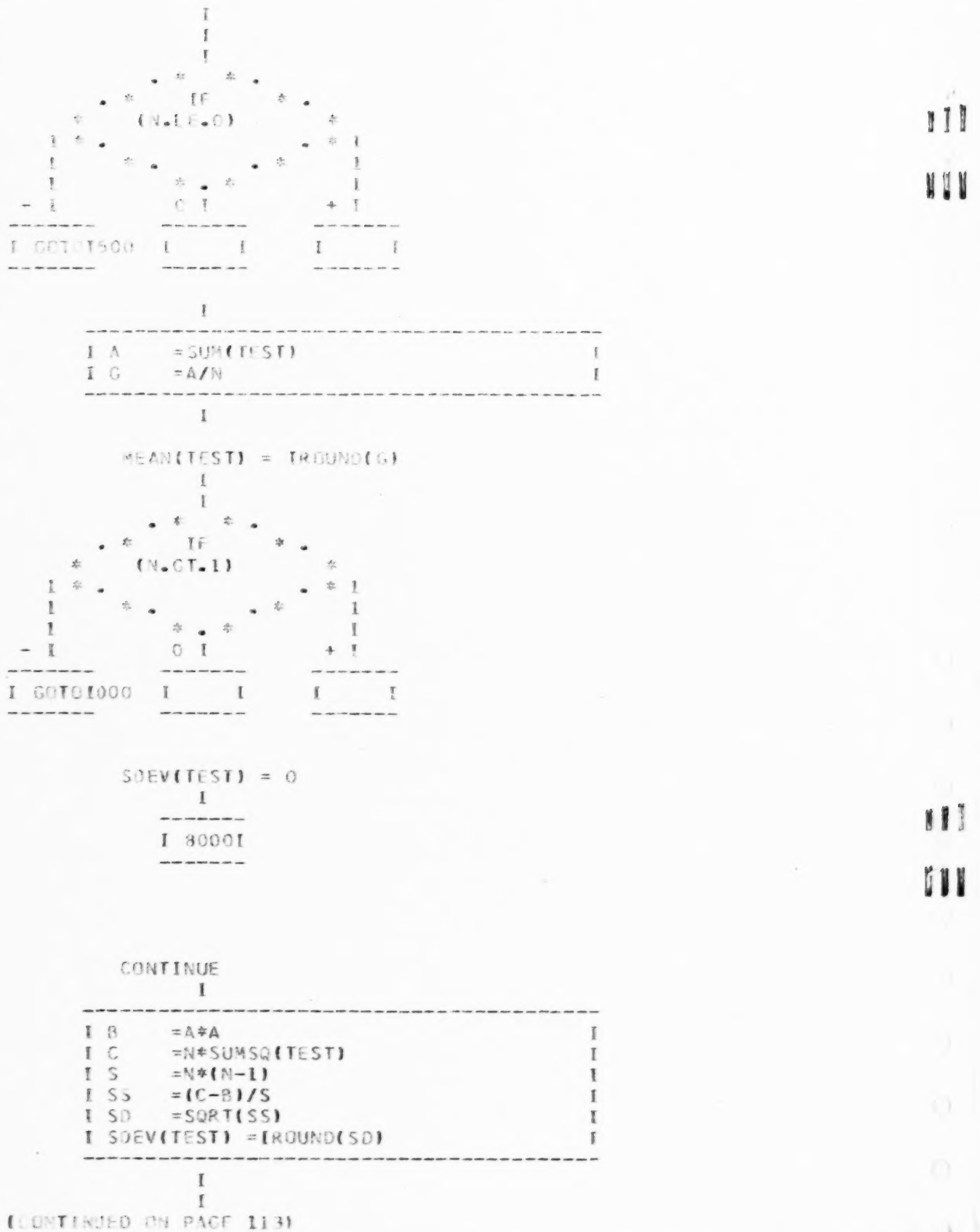

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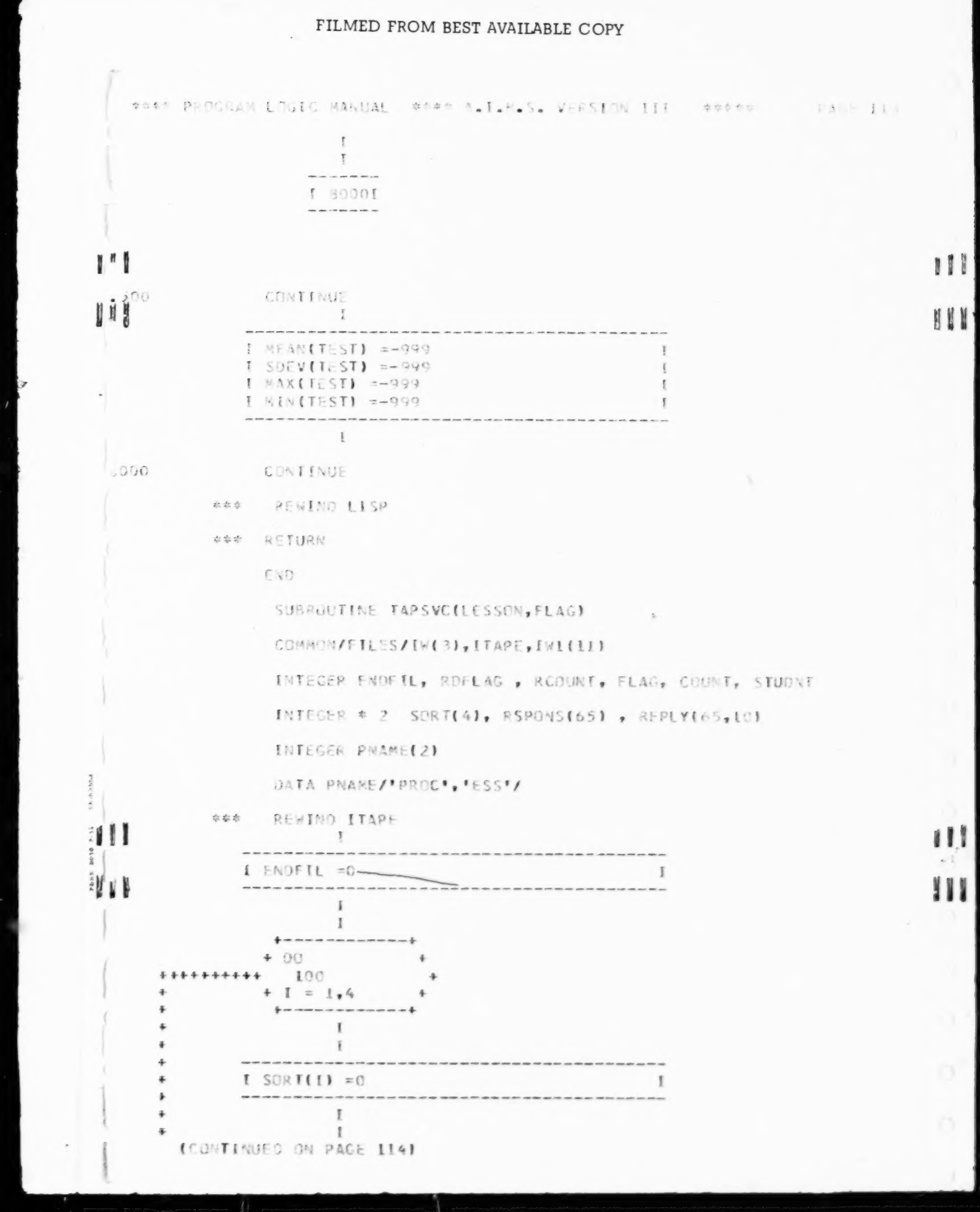

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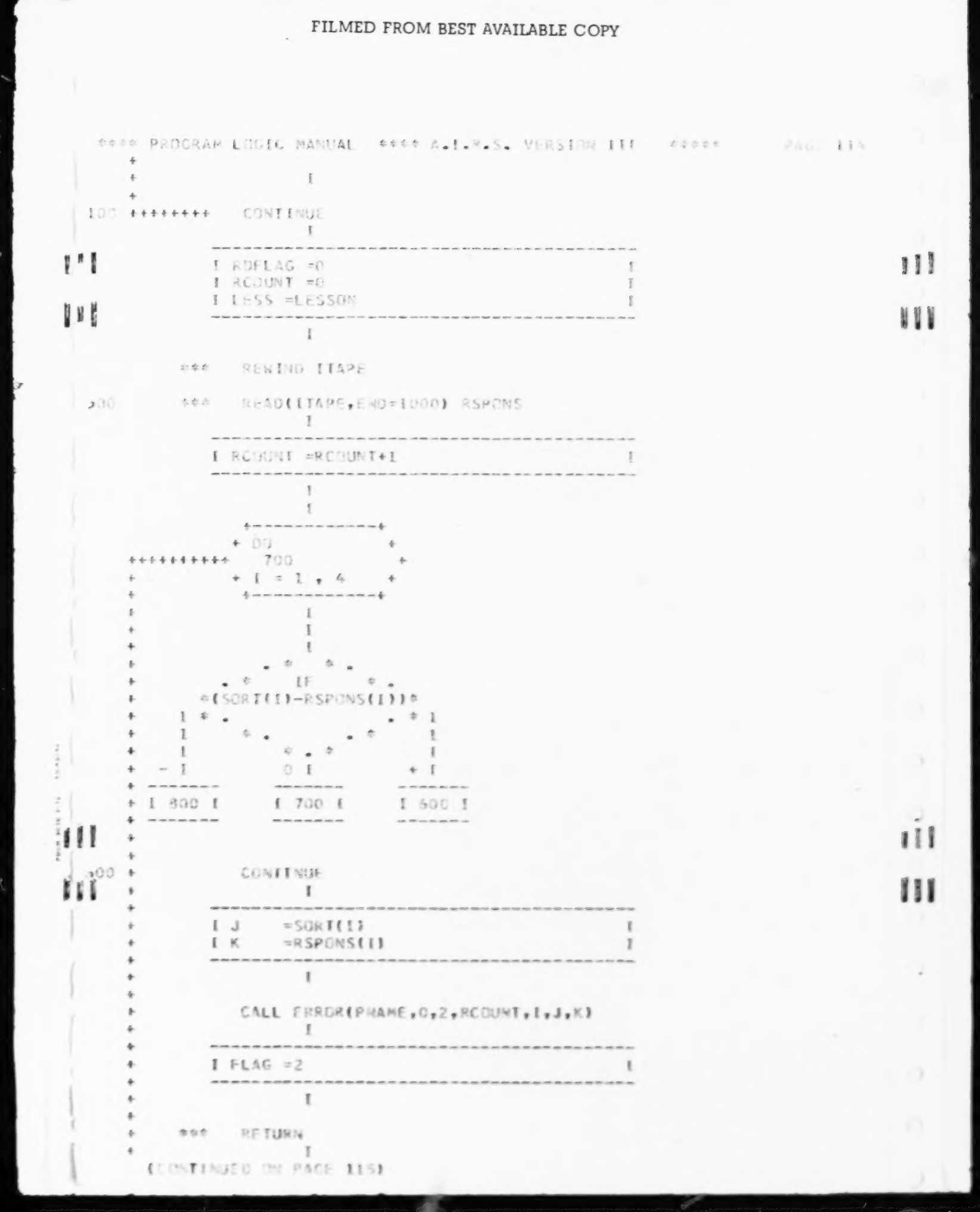

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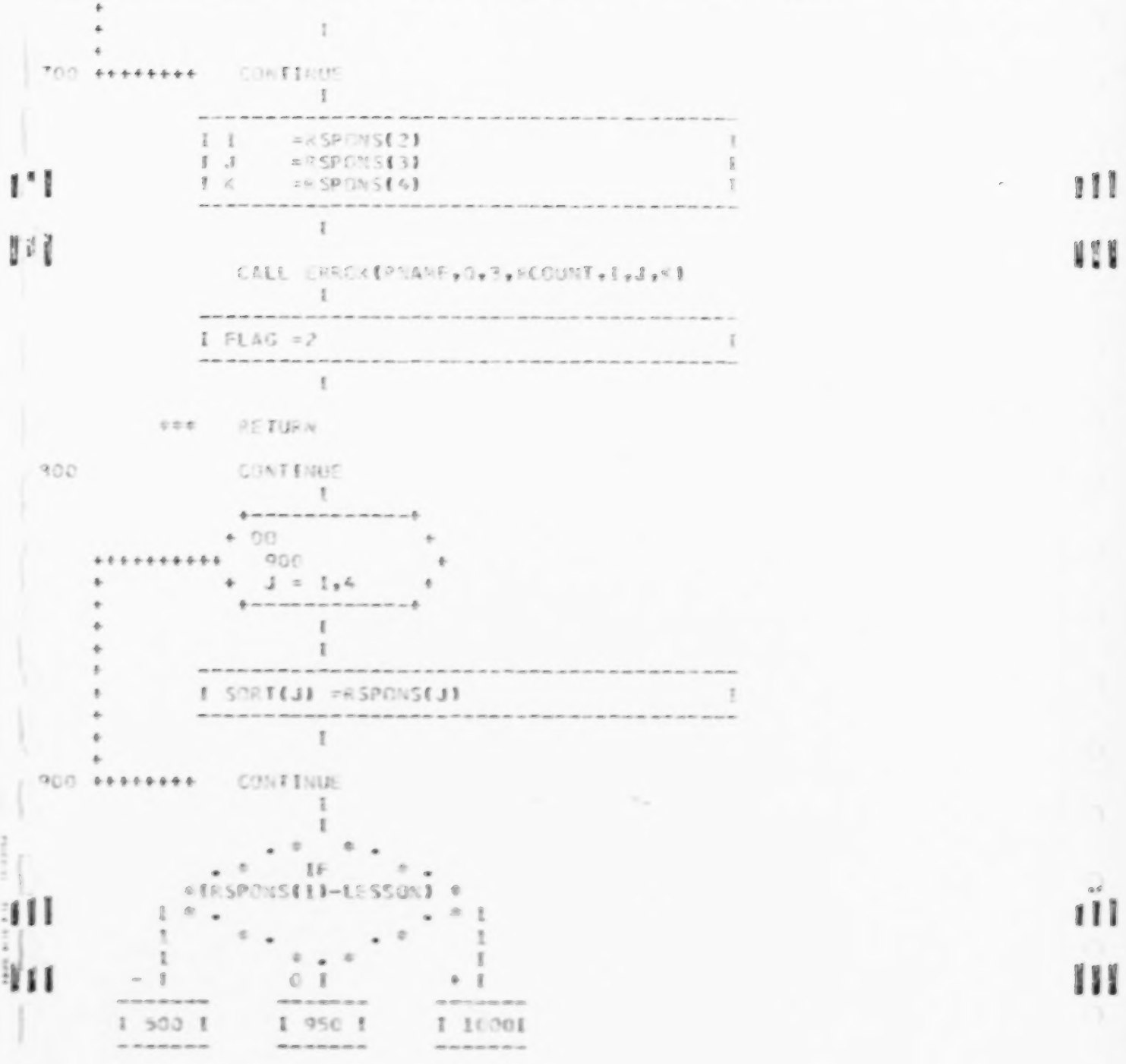

950 CONTINUE

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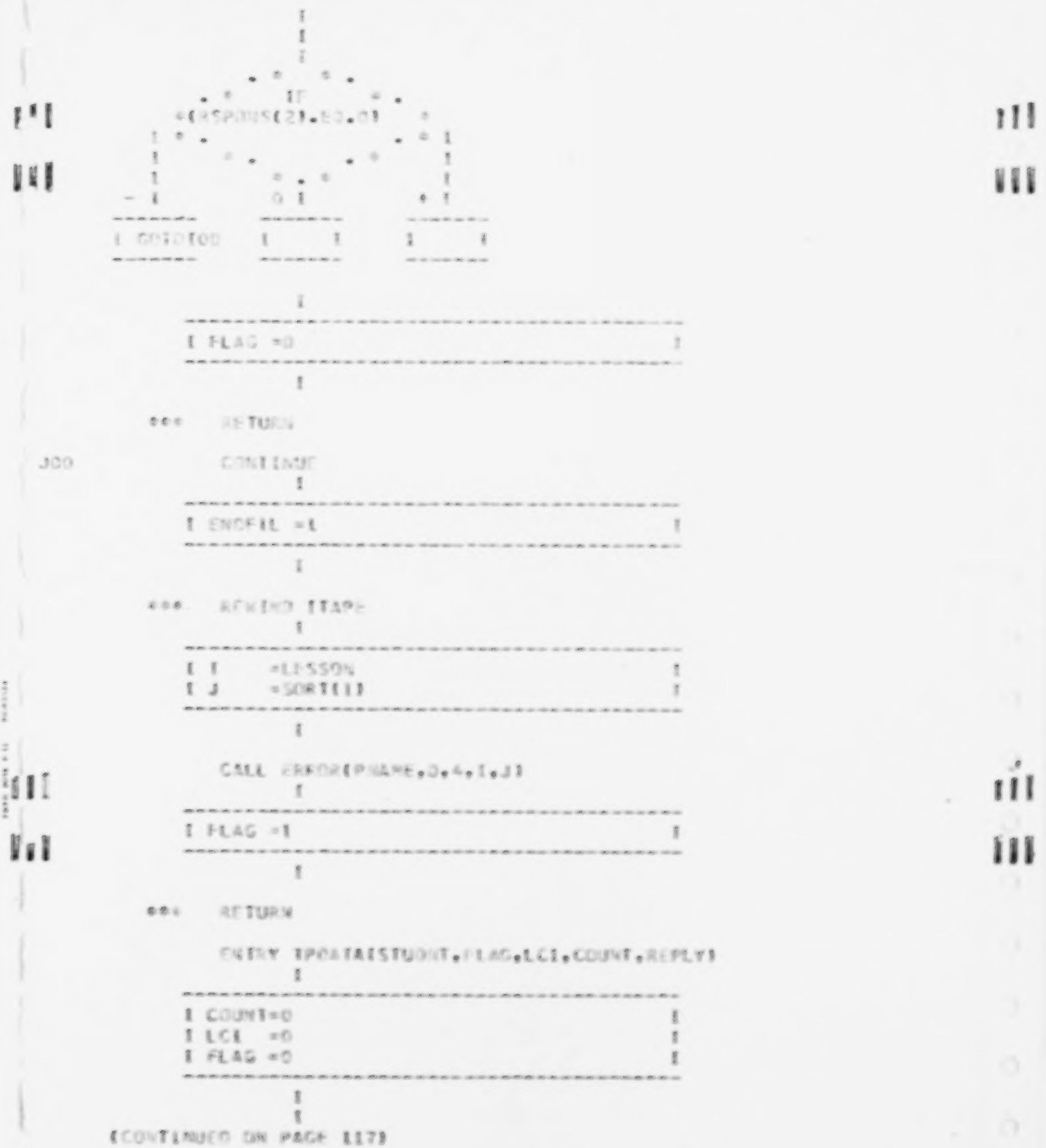

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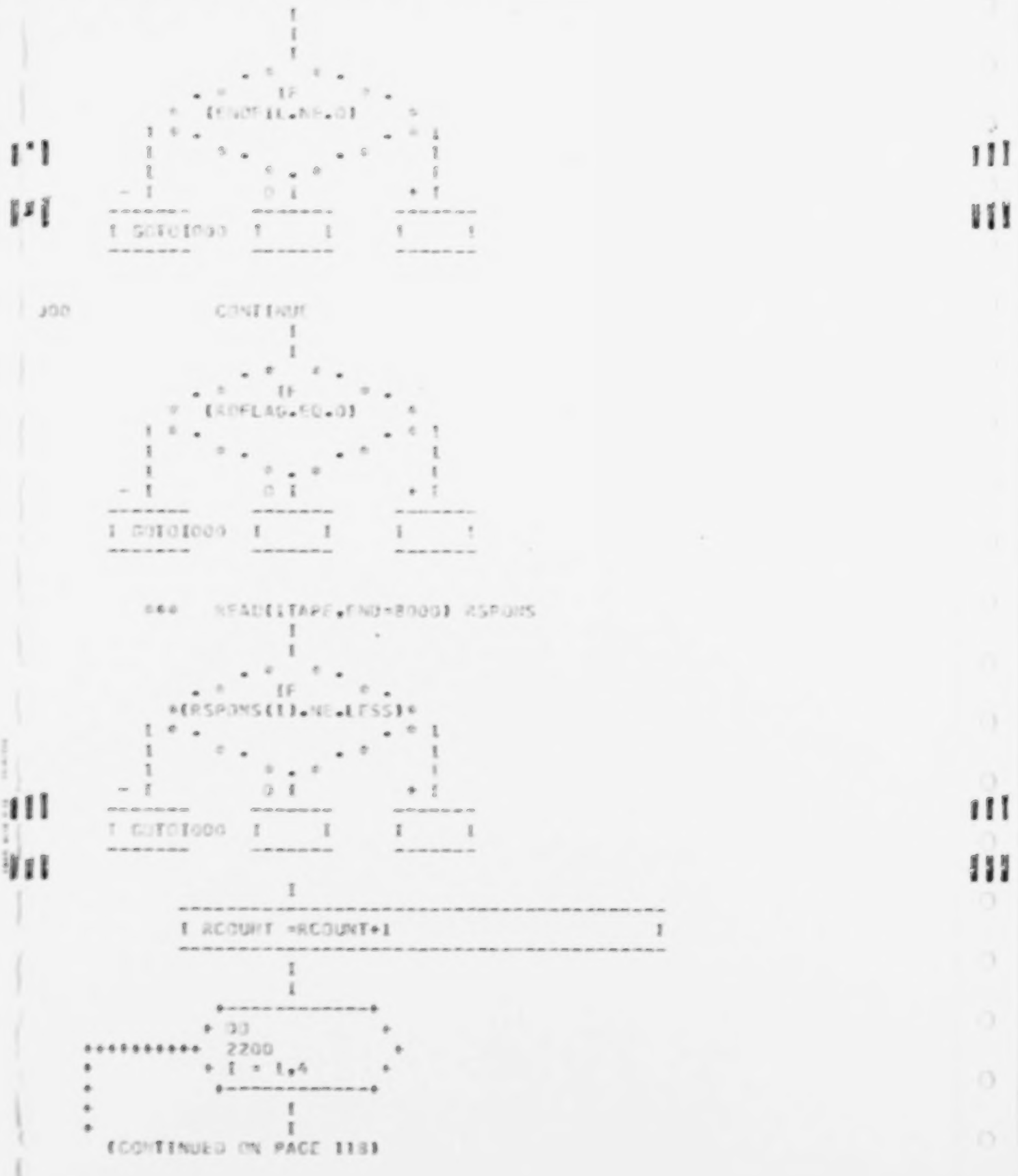

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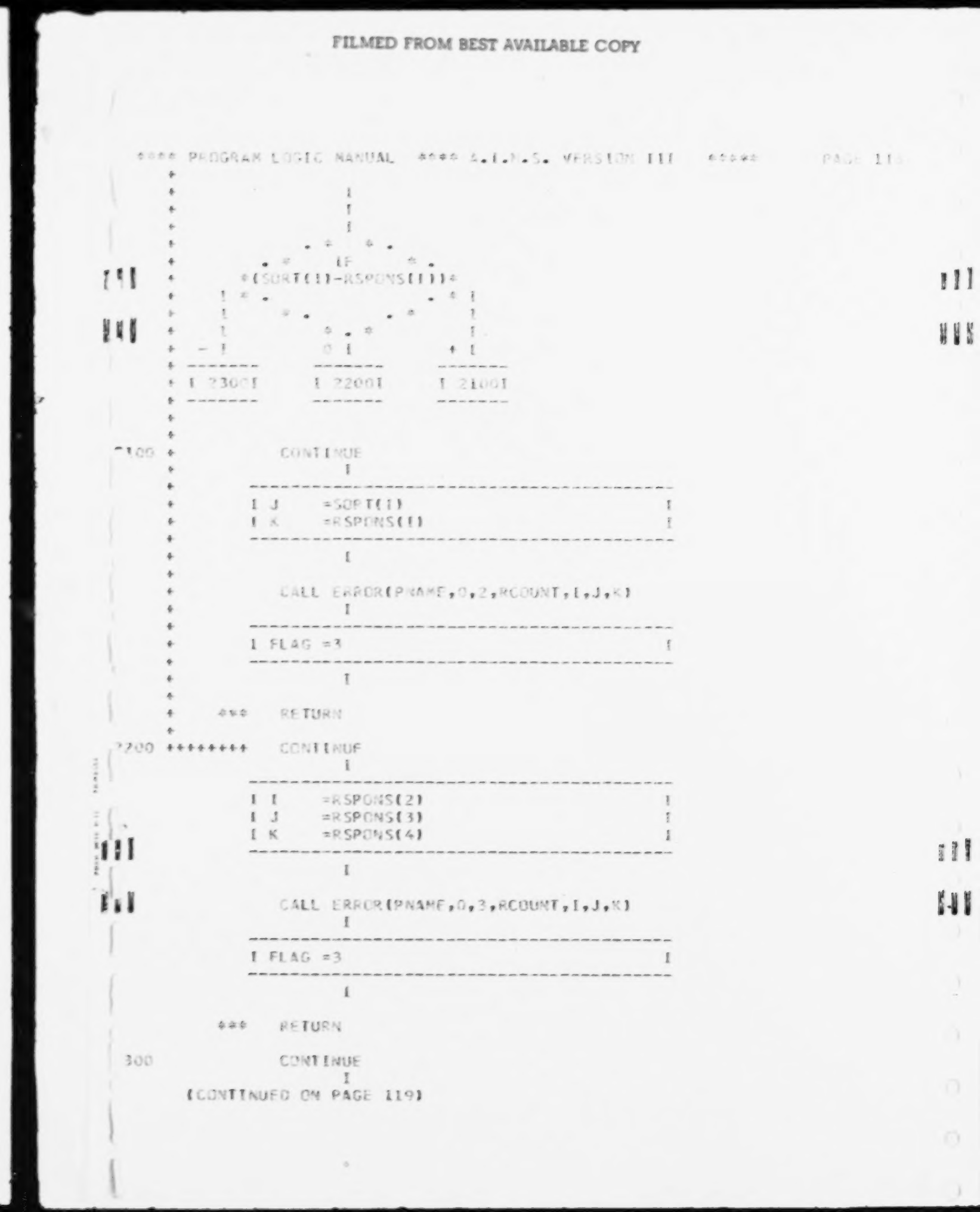

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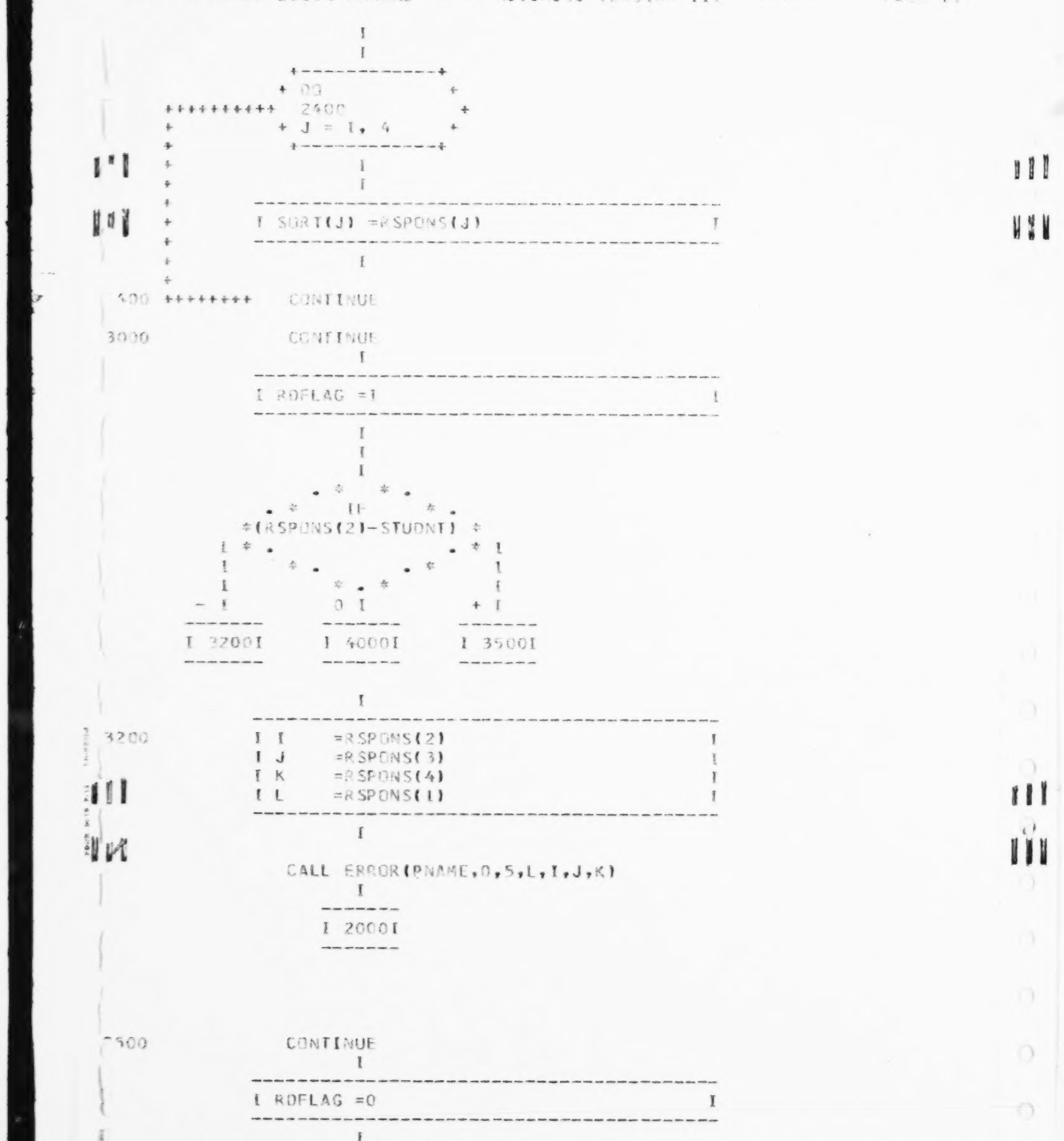

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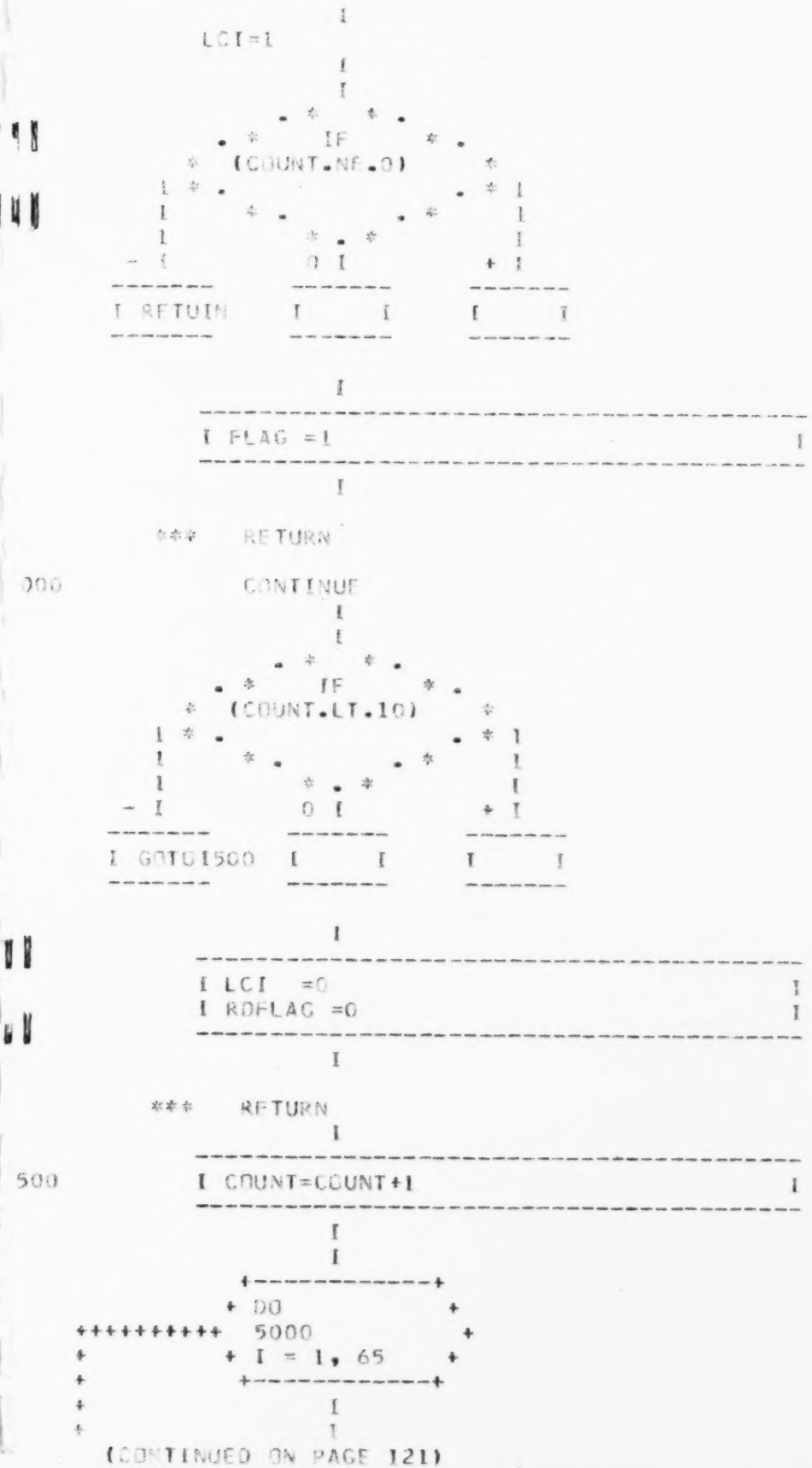

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```
     +
     +                  I
     +
     +
     +     ***    REPLY(I,COUNT) = RSPONS(I)
     +
000  ++++++++    CONTINUE
                    I
                 -------
                 I 2000I
                 -------

8000             CONTINUE
                    I
           ----------------------------------------
           I ENDFIL =1                            I
           ----------------------------------------
                    I
                    I
                    I
                 . * .
              . *  IF  * .
           *  (COUNT.EQ.0)    *
        I * .                 . * I
        I      * .         . *    I
        I          * . * .        I
      - I          0 I          + I
     -------      -------      -------
     I GOTO1000   I     I      I     I
     -------      -------      -------

                    I
           ----------------------------------------
           I LCI  =1                              I
           ----------------------------------------
                    I
        ***    REWIND ITAPE
        ***    RETURN

000              CONTINUE
                    I
           ----------------------------------------
           I LCI  =1                              I
           I FLAG =2                              I
           ----------------------------------------
                    I
        ***    REWIND ITAPE
        ***    RETURN

               END
                    I
```

(CONTINUED ON PAGE 122)

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```
                    I
                SUBROUTINE PROC2(LESSON,DECKS, ANSWER , SECOND , QSTION ,
                SAMPLE , SDEV, MEAN , MIN, MAX )
        ***     REAL * 8 SUM(20) , SUMSQ(20) , A , B , C
                INTEGER * 2  ANSWER(10,150) , SECOND(10,150) , QSTION(18,48,10)
               , SAMPLE(60) , SDEV(60) , MEAN(60) , MIN(60) , MAX(60)
                INTEGER * 2 RECORD(65) , TABLE(2,10) ,PTRS(50) , IDENT(5)
              COMMON/SYSTEM/NLESS,NDECK,NREX,NQUEST,NSTUD
                COMMON/FILES/ IW1(4), ISCRCH , IHEAD, IW2 , IQUEST ,
                ISTDNT , ISCORE , IW3, ISYS , IW4(3)
                INTEGER * 2  CARIN , ROSTER
                EQUIVALENCE(CARIN,RECORD(25))
                INTEGER DECKS , STDENT , TEST , QNO, QST ,AVG , AVG2
                    I
                 +------------+
                + DO           +
     ++++++++++   250           +
     +          + I = 1,20      +
     +           +------------+
     +                 !
     +                 I
     +        ------------------------------------------
     +        I SUM(I) =0.0                             I
     +        I SUMSQ(I) =0.0                           I
     +        ------------------------------------------
     +                 I
     +
 250 ++++++++   CONTINUE
        ***     READ(ISYS'3) PTRS
                    I
                ------------------------------------------
                I J    =PTRS(LESSON)                      I
                ------------------------------------------
                    I
                    I
                 +------------+
                + DO           +
     ++++++++++   500           +
     +          + I = 1 , DECKS+
     +           +------------+
     +                 I
     +
     +     ***   READ(IHEAD'J) RECORD
     +
     +           TABLE(1,I) = RECORD(8)
     +
     +           TABLE(2,I) = RECORD(13)
     +                 I
     +        ------------------------------------------
```

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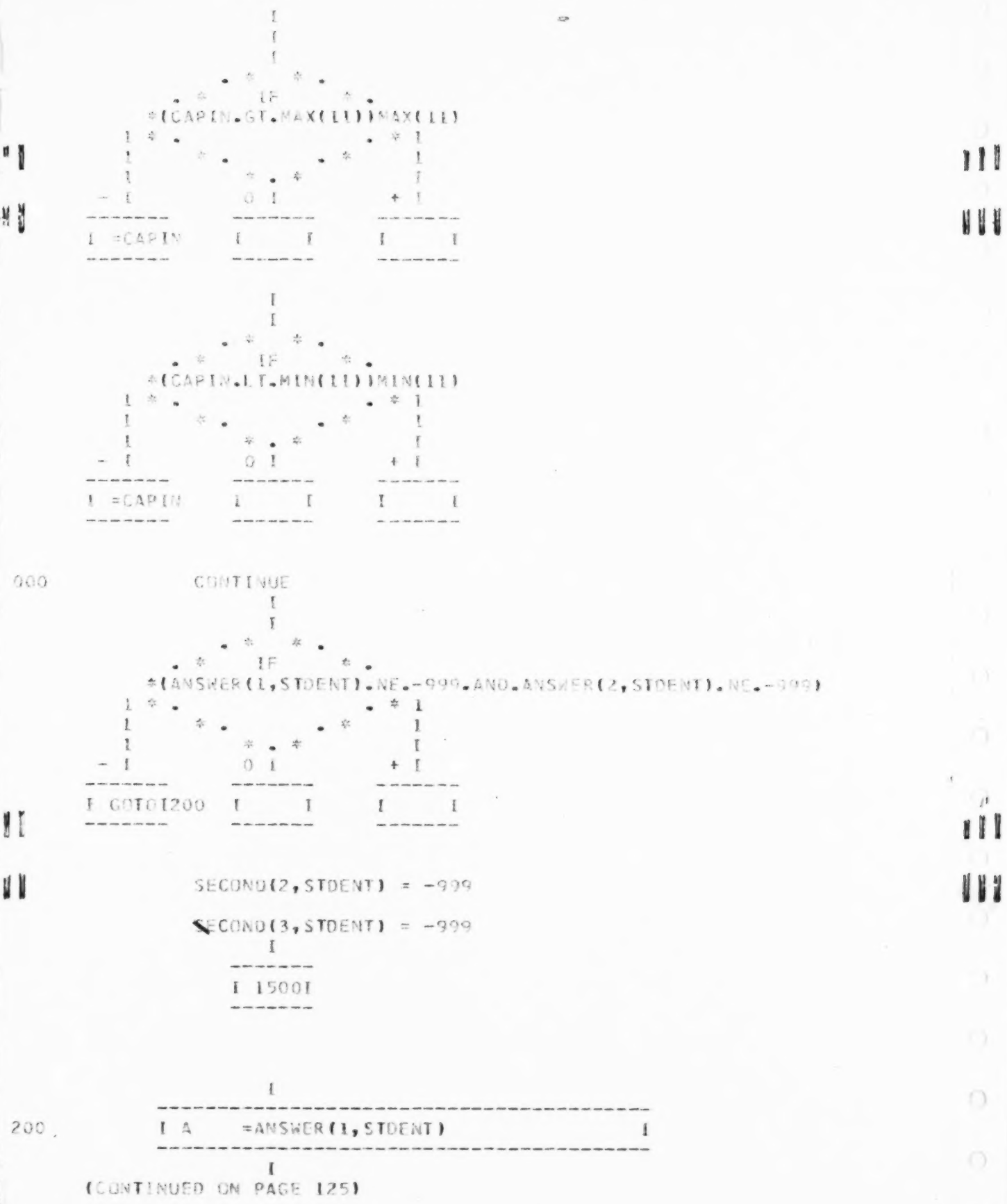

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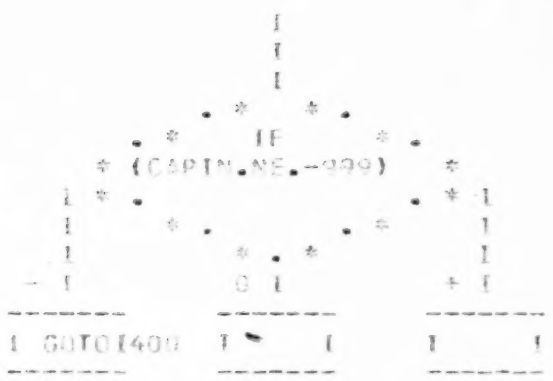


SECOND(3,STDENT) = -999

GOTO(500)

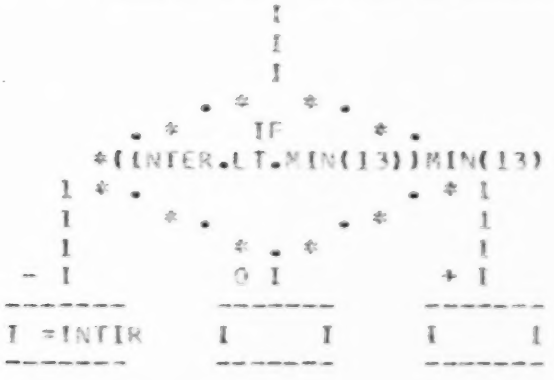
+00 CONTINUE

GRADE=GRADE-CAPIN
INTER=IROUND(GRADE)

SECOND(3,STDENT) = INTER

SAMPLE(13) = SAMPLE(13) + 1

SUM(13) =SUM(13)+GRADE
SUMSQ(13) =SUMSQ(13)+(GRADE*GRADE)



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500 CONTINUE

SECOND(5,STDENT) = -999

SECOND(6,STDENT) = -999

2000

600 CONTINUE

A =ANSWER(3,STDENT)
GRADE=((3.0*A)+ANSWER(4,STDENT))
INTER=IROUND(GRADE)

SECOND(5,STDENT) = INTER

SAMPLE(15) = SAMPLE(15) + 1

SUM(15) =SUM(15)+GRADE

(CONTINUED ON PAGE 128)

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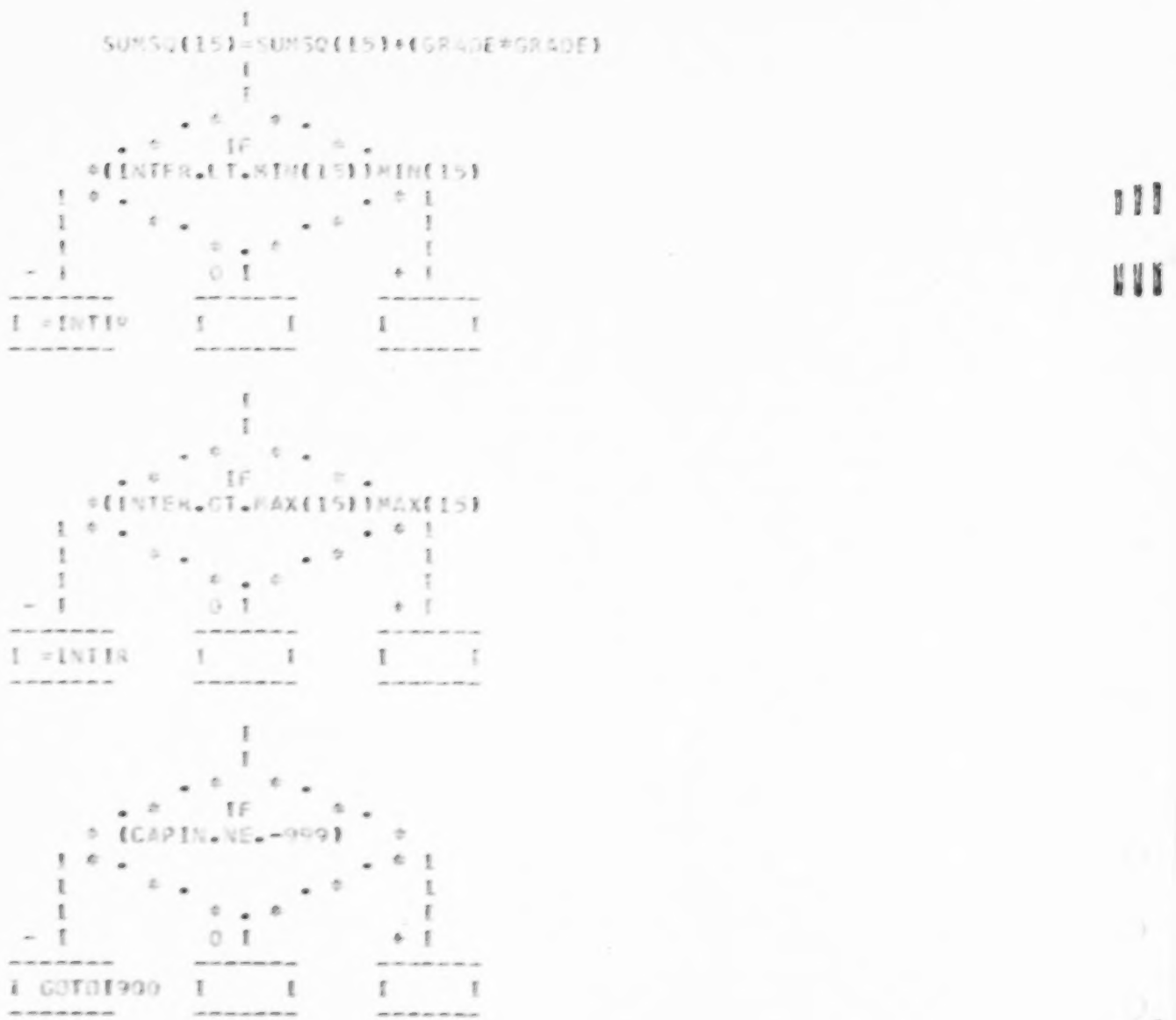

SECOND(6,STDENT) = -999

2000

400 CONTINUE

GRADE=GRADE-CAPIN

(CONTINUED ON PAGE 129)

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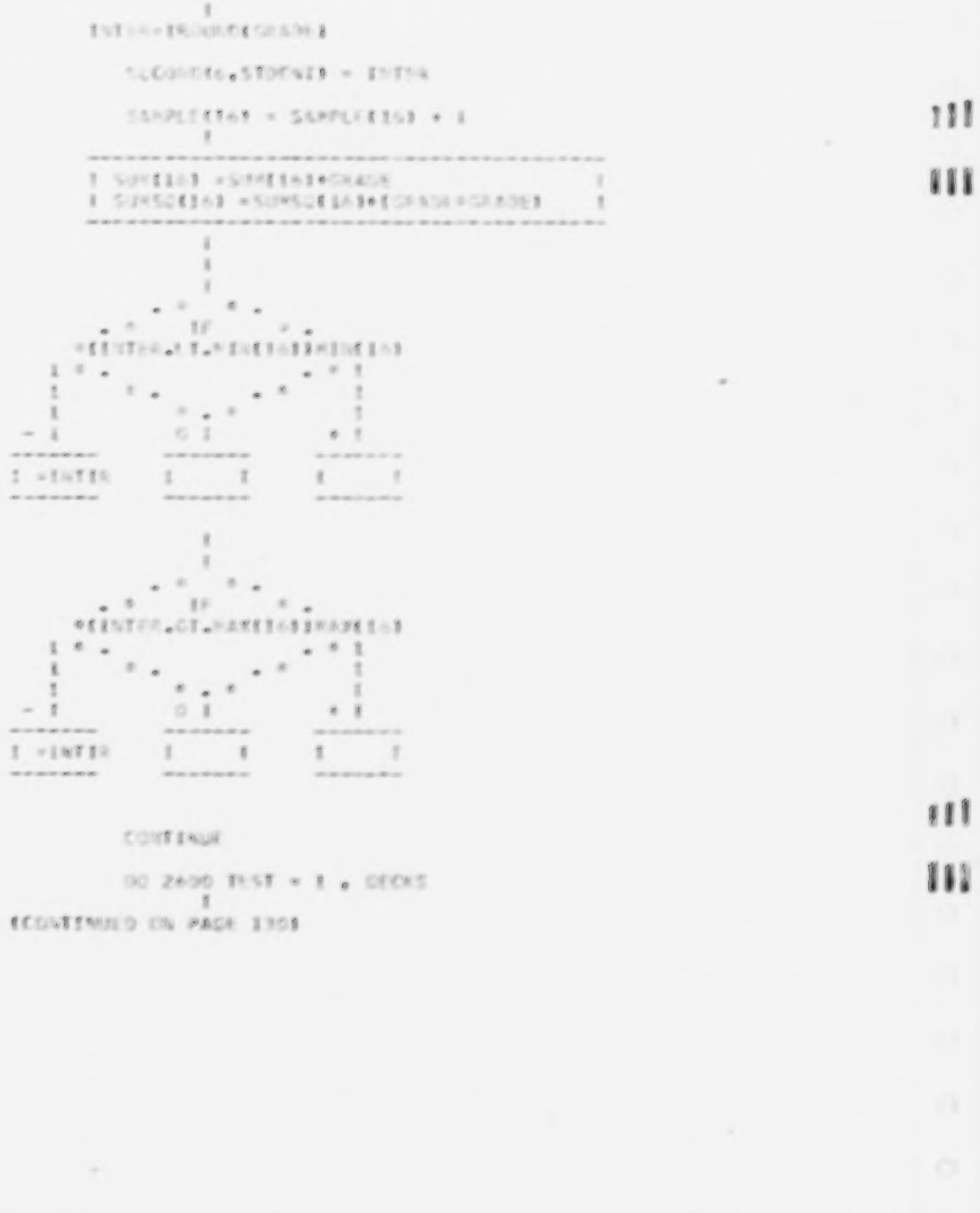

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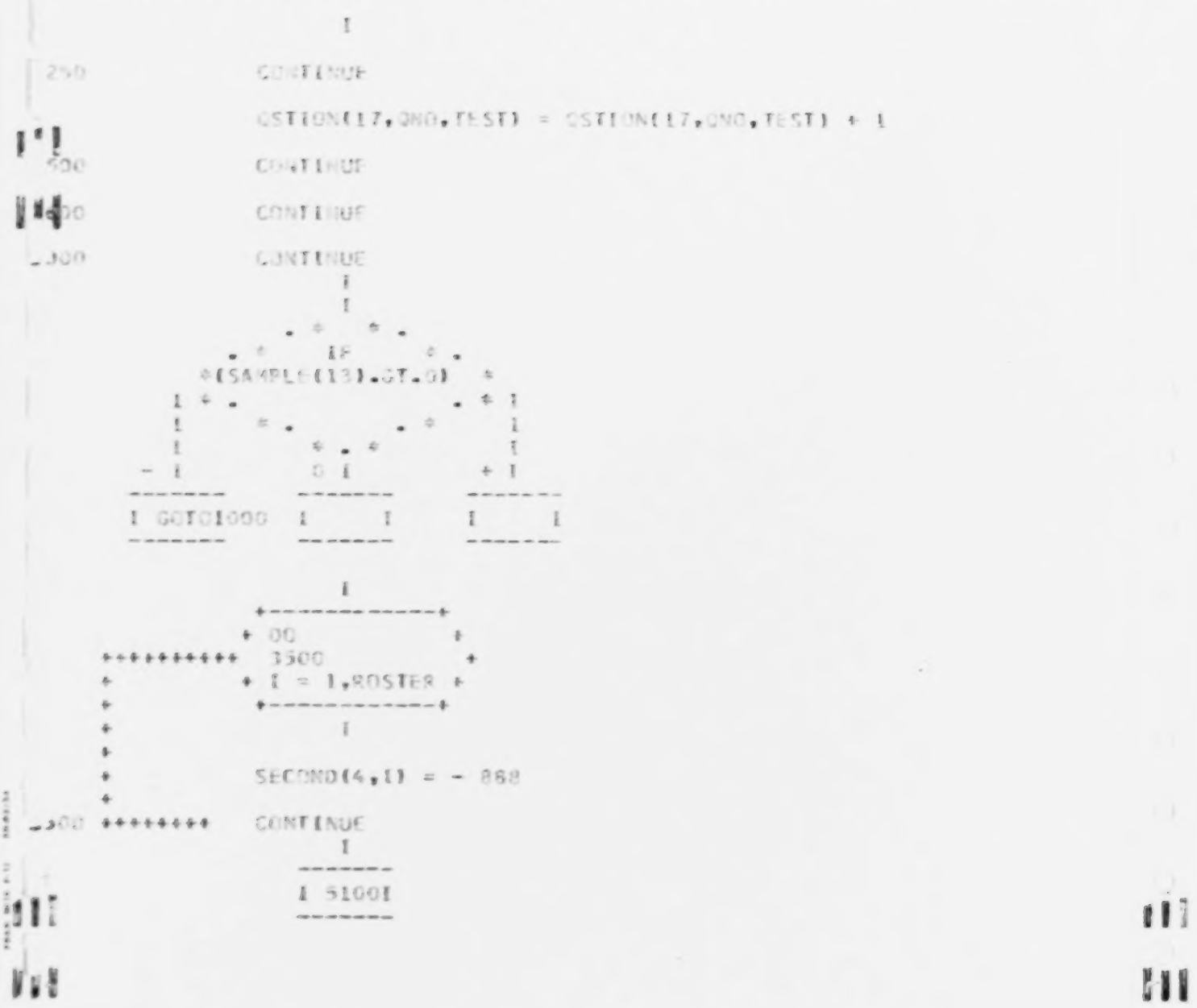
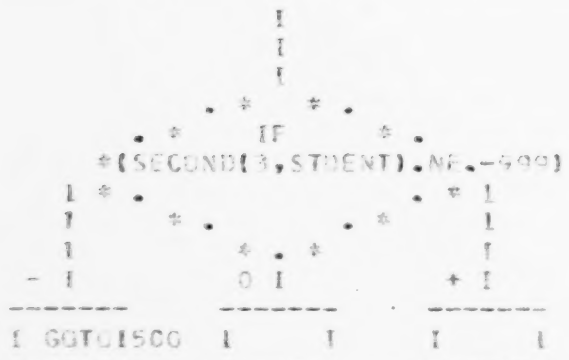
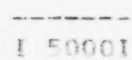


(CONTINUED ON PAGE 132)

FILMED FROM BEST AVAILABLE COPY



SECOND(4,STDENT) = -999



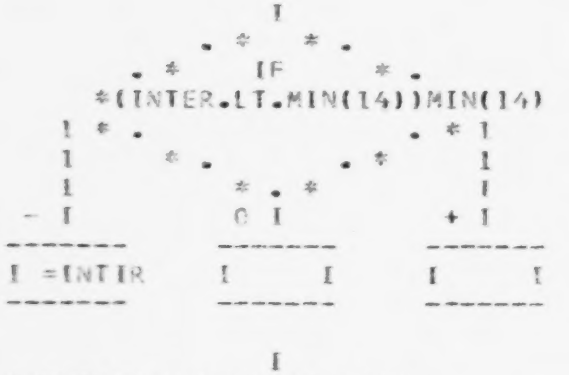
300 CONTINUE

GRADE=SECOND(3,STDENT)-AVG
INTER=IROUND(GRADE)

SECOND(4,STDENT) = INTER

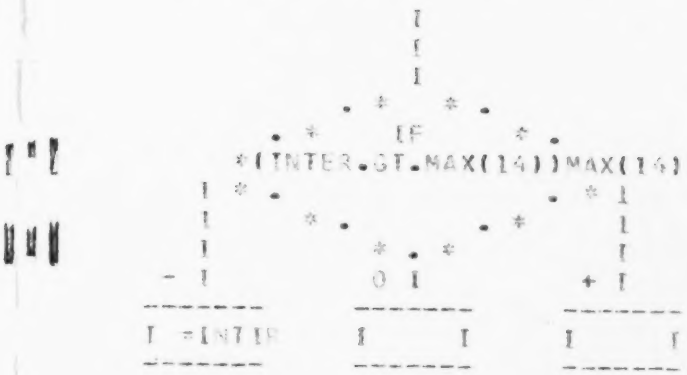
SAMPLE(14) = SAMPLE(14) + 1

SUM(14) =SUM(14)+GRADE
SUMSQ(14) =SUMSQ(14)+(GRADE*GRADE)



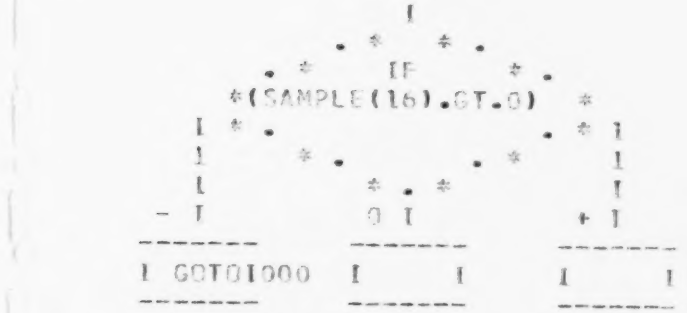
(CONTINUED ON PAGE 133)

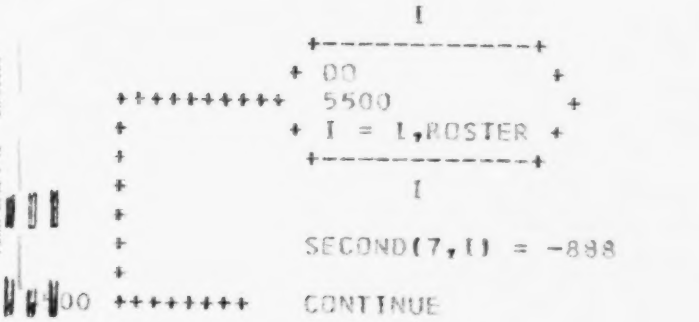
FILMED FROM BEST AVAILABLE COPY



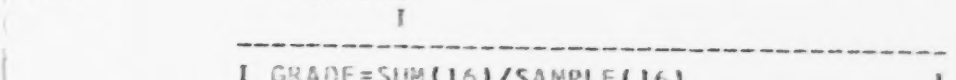
7000 CONTINUE

7100 CONTINUE





8000 CONTINUE



(CONTINUED ON PAGE 134)

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(CONTINUED ON PAGE 135)

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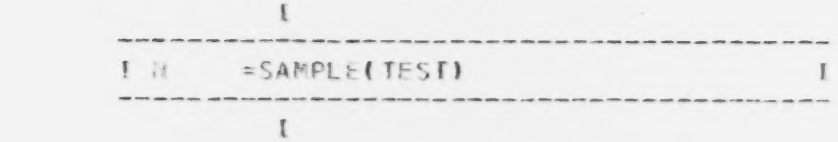
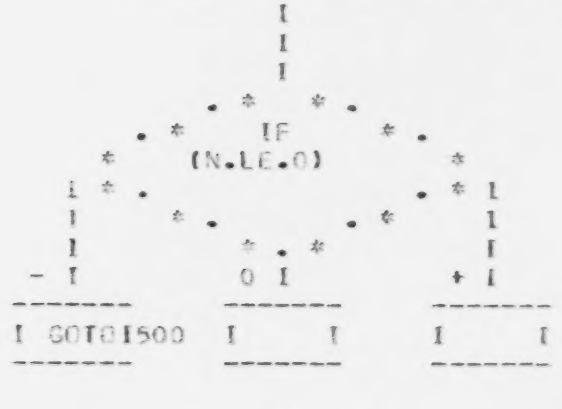
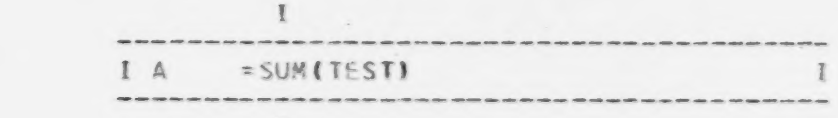
```
.300            CONTINUE

'400            CONTINUE

                DO 8000 TEST = 11,17
```

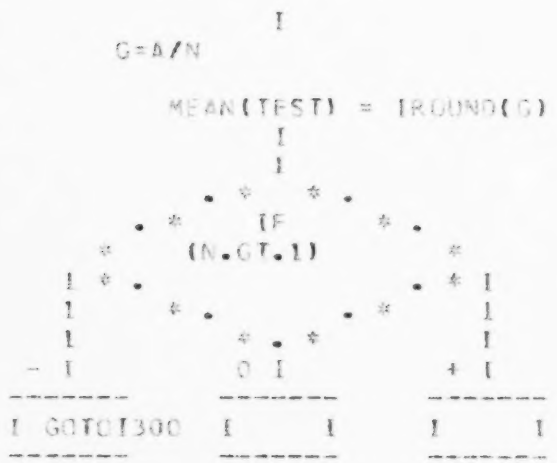






(CONTINUED ON PAGE 136)

FILMED FROM BEST AVAILABLE COPY



300 CONTINUE

```
B     =A*A
C     =N*SUMSQ(TEST)
S     =N*(N-1)
SS    =(C-B)/S
SD    =SQRT(SS)
```

SDEV(TEST) = IROUND(SD)

8000

500 CONTINUE

MEAN(TEST) = -999

SDEV(TEST) = -999

```
MAX(TEST) =-999
MIN(TEST) =-999
```

(CONTINUED ON PAGE 137)

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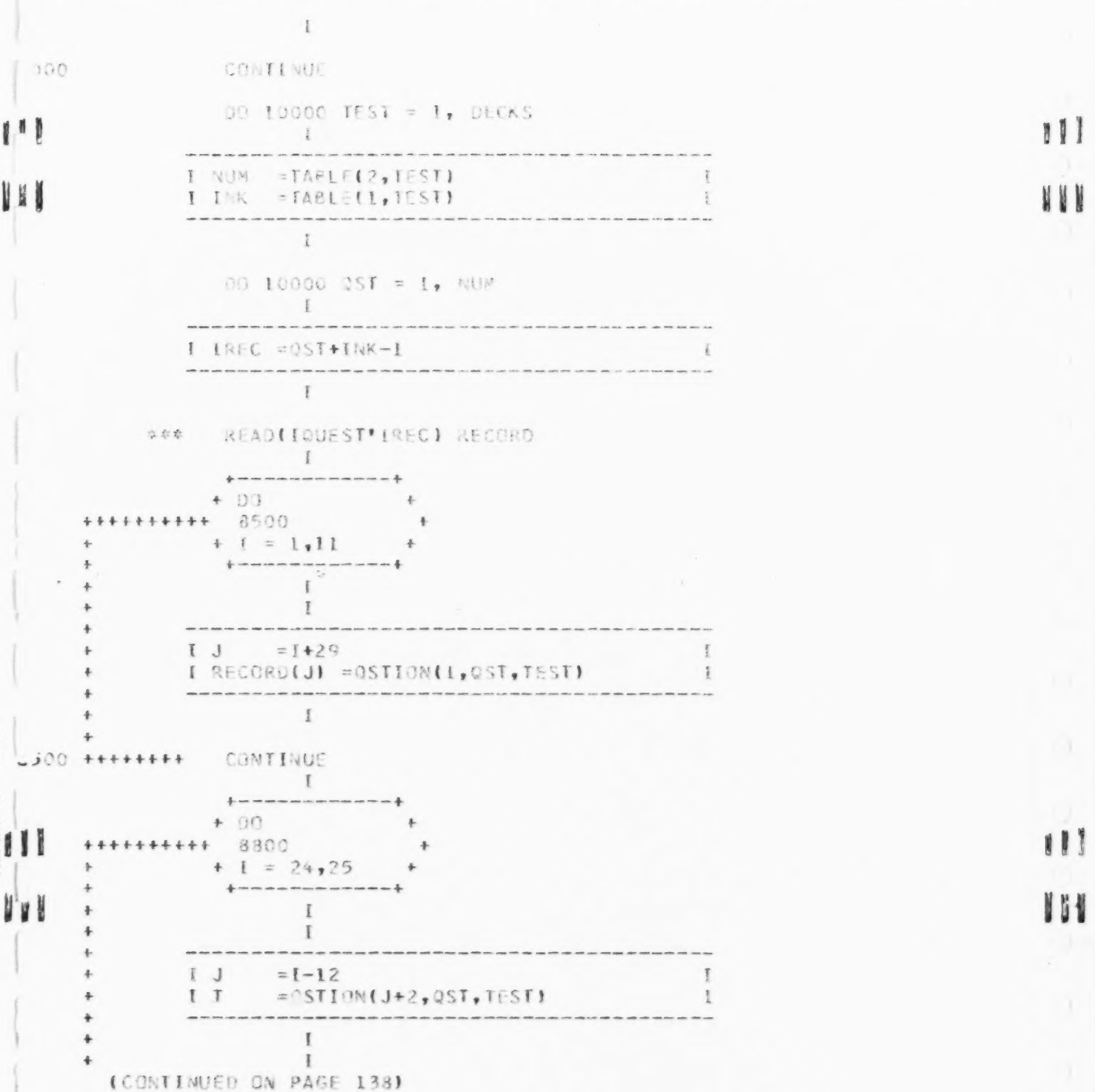
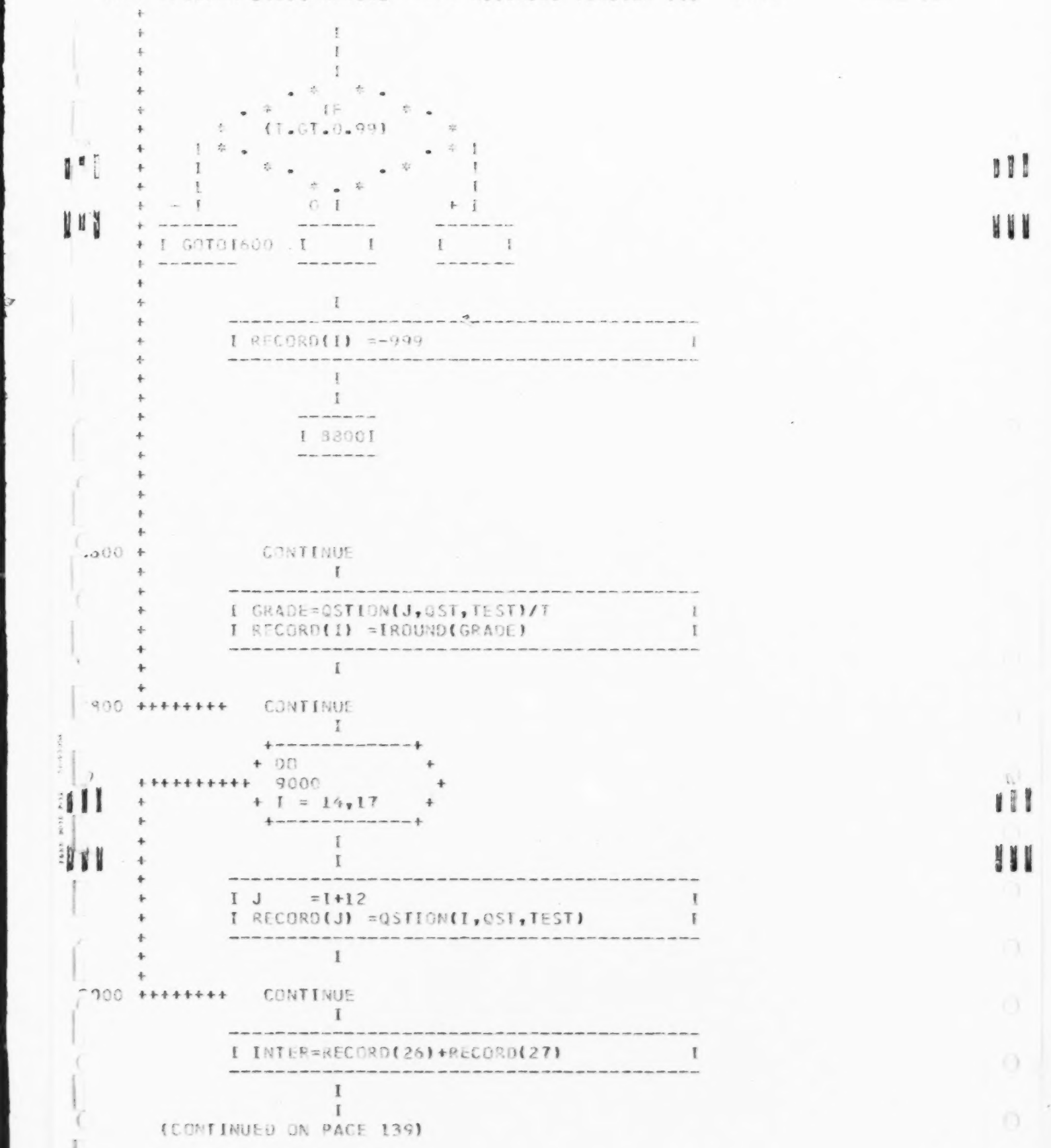


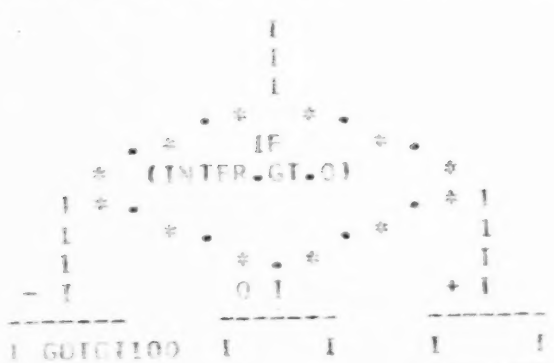
(CONTINUED ON PAGE 138)

FILMED FROM BEST AVAILABLE COPY

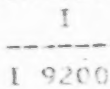


(CONTINUED ON PAGE 139)

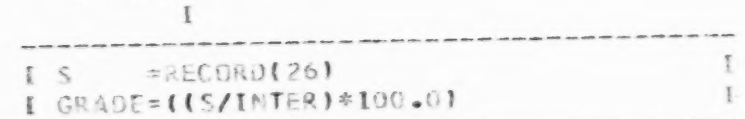
FILMED FROM BEST AVAILABLE COPY



*** RECORD(21) = -999

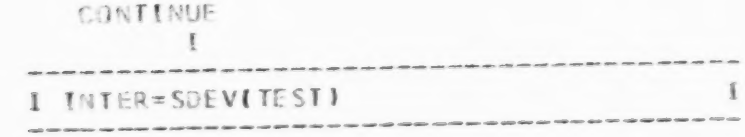


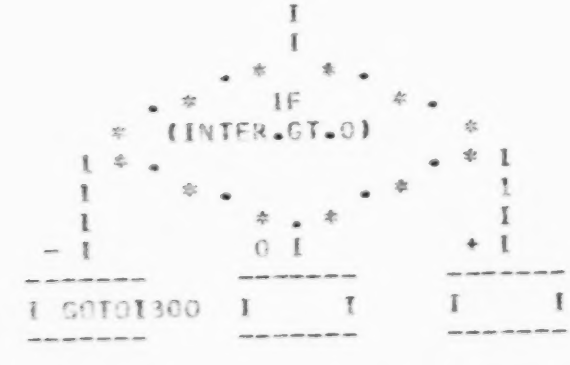
1100 CONTINUE



*** RECORD(21) = IROUND(GRADE)

1200 CONTINUE





*** RECORD(22) = -999

(CONTINUED ON PAGE 140)

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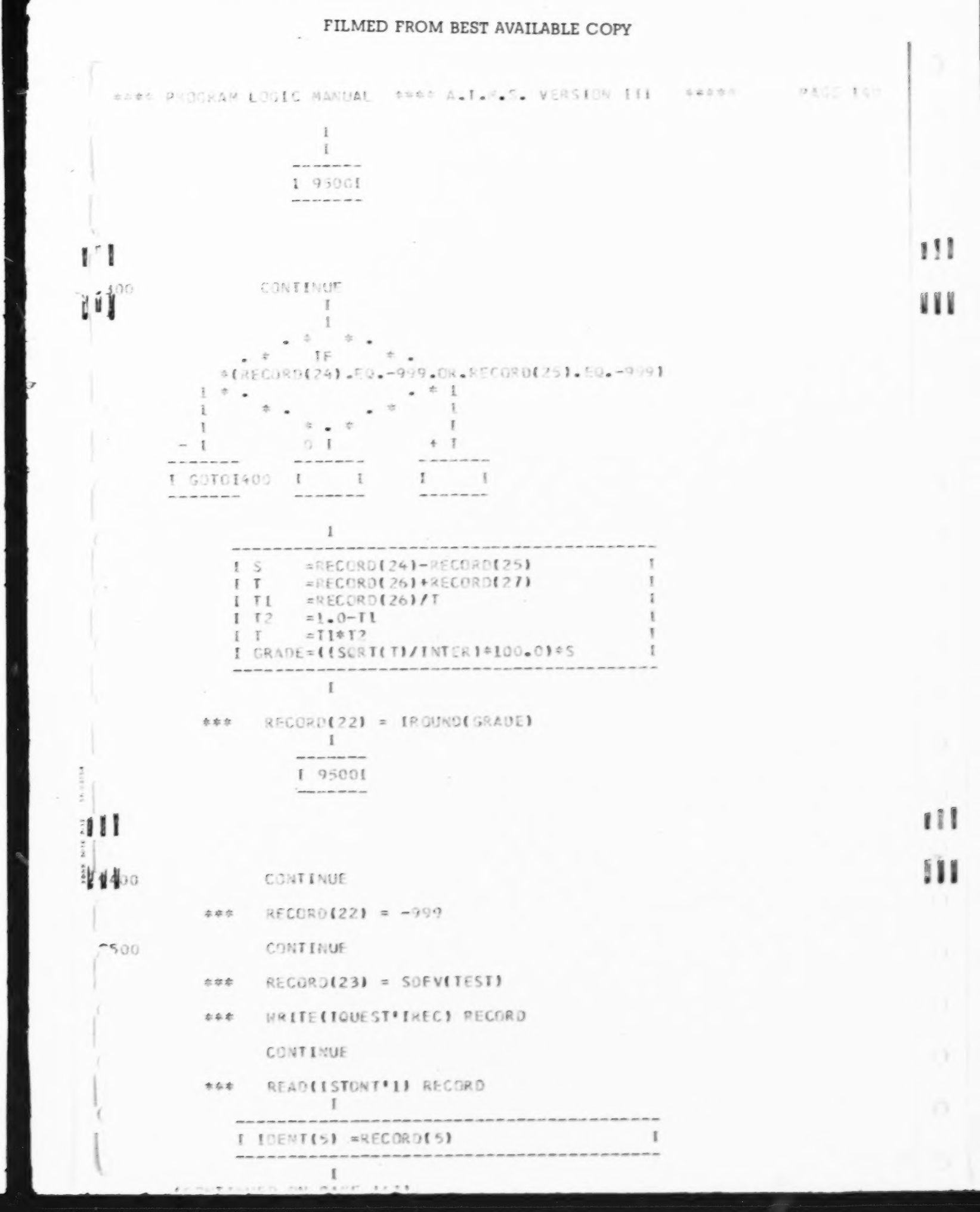

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```
                    !
              IDENT(1)=LESSON
                    !
              ------------------------------------------
              ! IDENT(2) =-4                           !
              ! IDENT(3) =0                            !
              ! IDENT(4) =0                            !
              ! NUMB =NSTUD*5                          !
              ! IREC =((LESSON-1)*NUMB)+1              !
              ------------------------------------------
                    !
           ***   WRITE(ISCORE'IREC) IDENT , SAMPLE
                    !
              ------------------------------------------
              ! IDENT(2) =-3                           !
              ! IREC =IREC+1                           !
              ------------------------------------------
                    !
           ***   WRITE(ISCORE'IREC) IDENT , MEAN
                    !
              ------------------------------------------
              ! IDENT(2) =-2                           !
              ! IREC =IREC+1                           !
              ------------------------------------------
                    !
           ***   WRITE(ISCORE'IREC) IDENT , MIN
                    !
              ------------------------------------------
              ! IDENT(2) =-1                           !
              ! IREC =IREC+1                           !
              ------------------------------------------
                    !
           ***   WRITE(ISCORE'IREC) IDENT , MAX
                    !
              ------------------------------------------
              ! IDENT(2) =0                            !
              ! IREC =IREC+1                           !
              ------------------------------------------
                    !
           ***   WRITE(ISCORE'IREC) IDENT , SDEV

                 DO 12000 STDENT = 1,ROSTER
                    !
              ------------------------------------------
              ! IDENT(2) =STDENT                       !
              ! IREC =IREC+1                           !
              ------------------------------------------
                    !
           ***   WRITE(ISCORE'IREC) IDENT , (ANSWER(I,STDENT),I=1,10 ) ,
                 (SECOND(J,STDENT),J = 1,10)
                    !
```

(CONTINUED ON PAGE 142)

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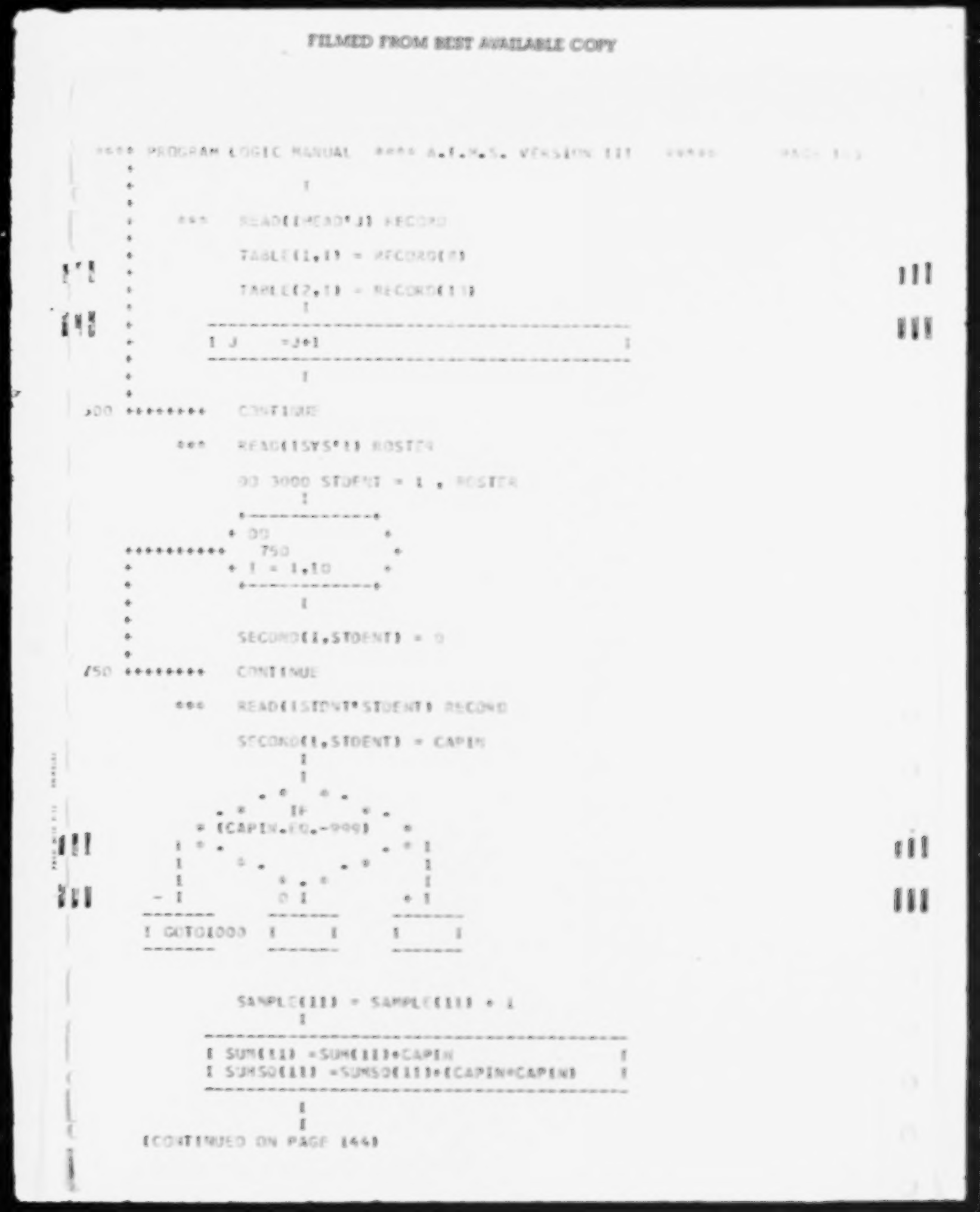

(CONTINUED ON PAGE 144)

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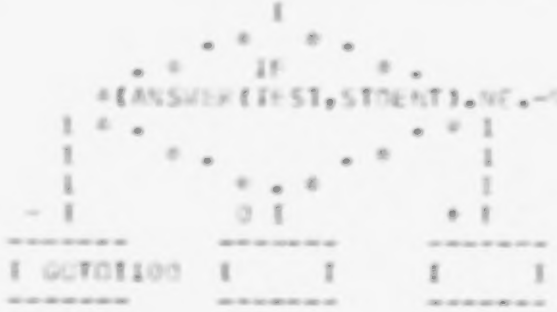
```
200           CONTINUE

              DO 2000 ITEST = 1 , DECKS
```




```
              SECOND(ITEST+1,STUDENT) = -999
```

(CONTINUED ON PAGE 1451)

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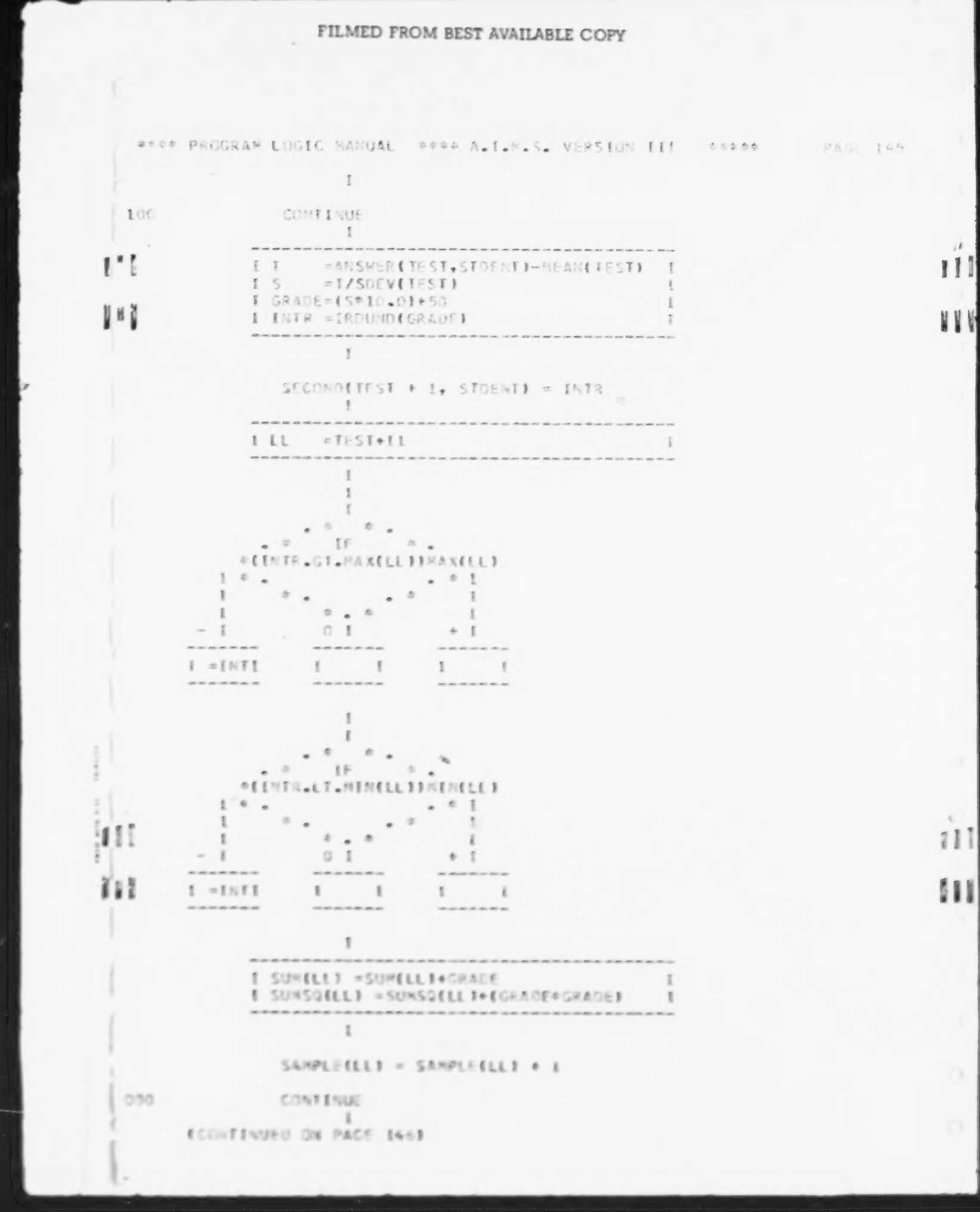

(CONTINUED ON PAGE 146)

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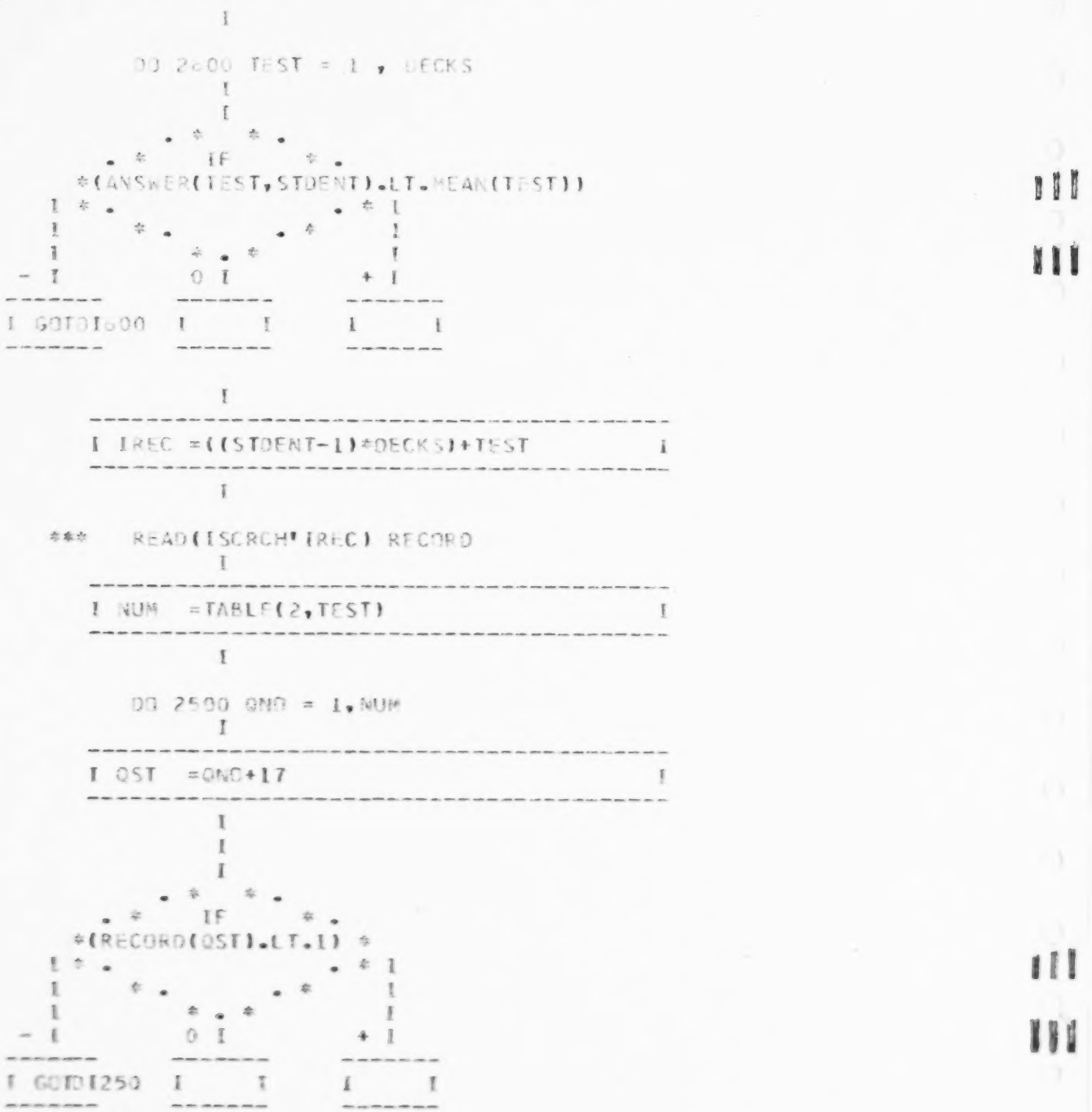

(CONTINUED ON PAGE 147)

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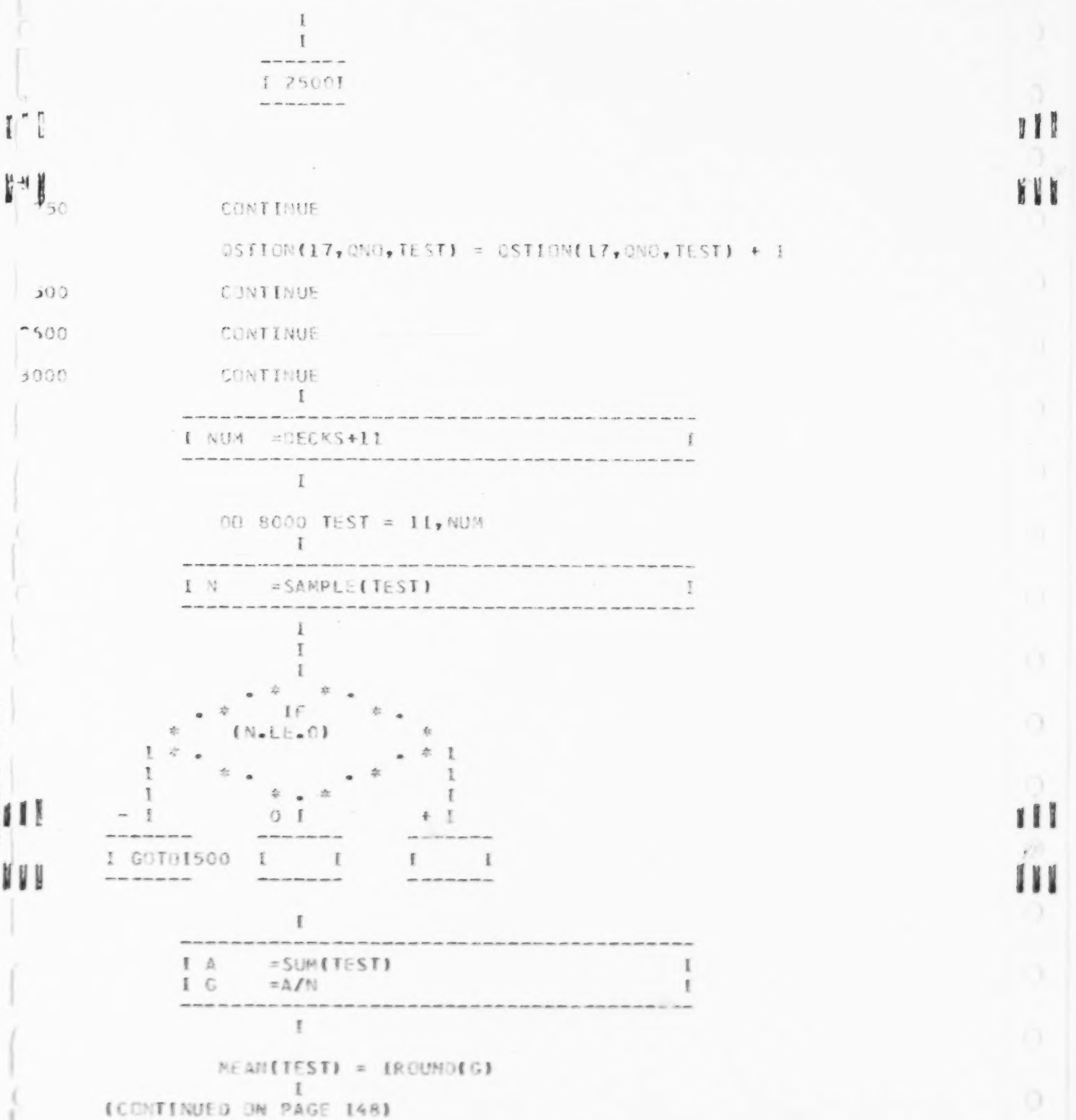

(CONTINUED ON PAGE 148)

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SDEV(TEST) = 0

8000

300 CONTINUE

```
B    =A*A
C    =N*SUMSQ(TEST)
S    =N*(N-1)
SS   =(C-B)/S
SD   =SQRT(SS)
```

SDEV(TEST) = IRDUND(SD)

8000

500 CONTINUE

MEAN(TEST) = -999

SDEV(TEST) = -999

```
MAX(TEST) =-999
MIN(TEST) =-999
```

(CONTINUED ON PAGE 149)

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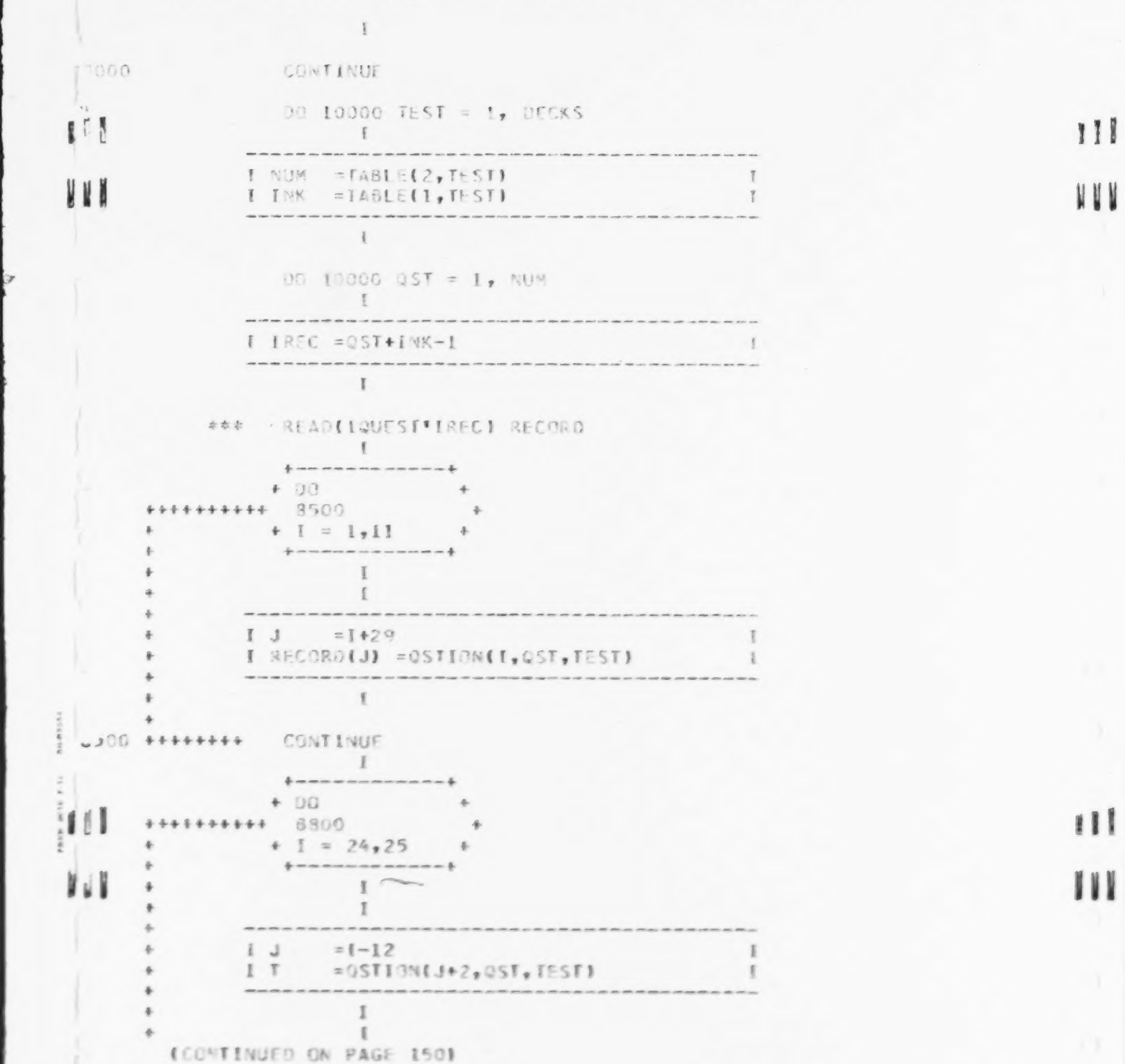
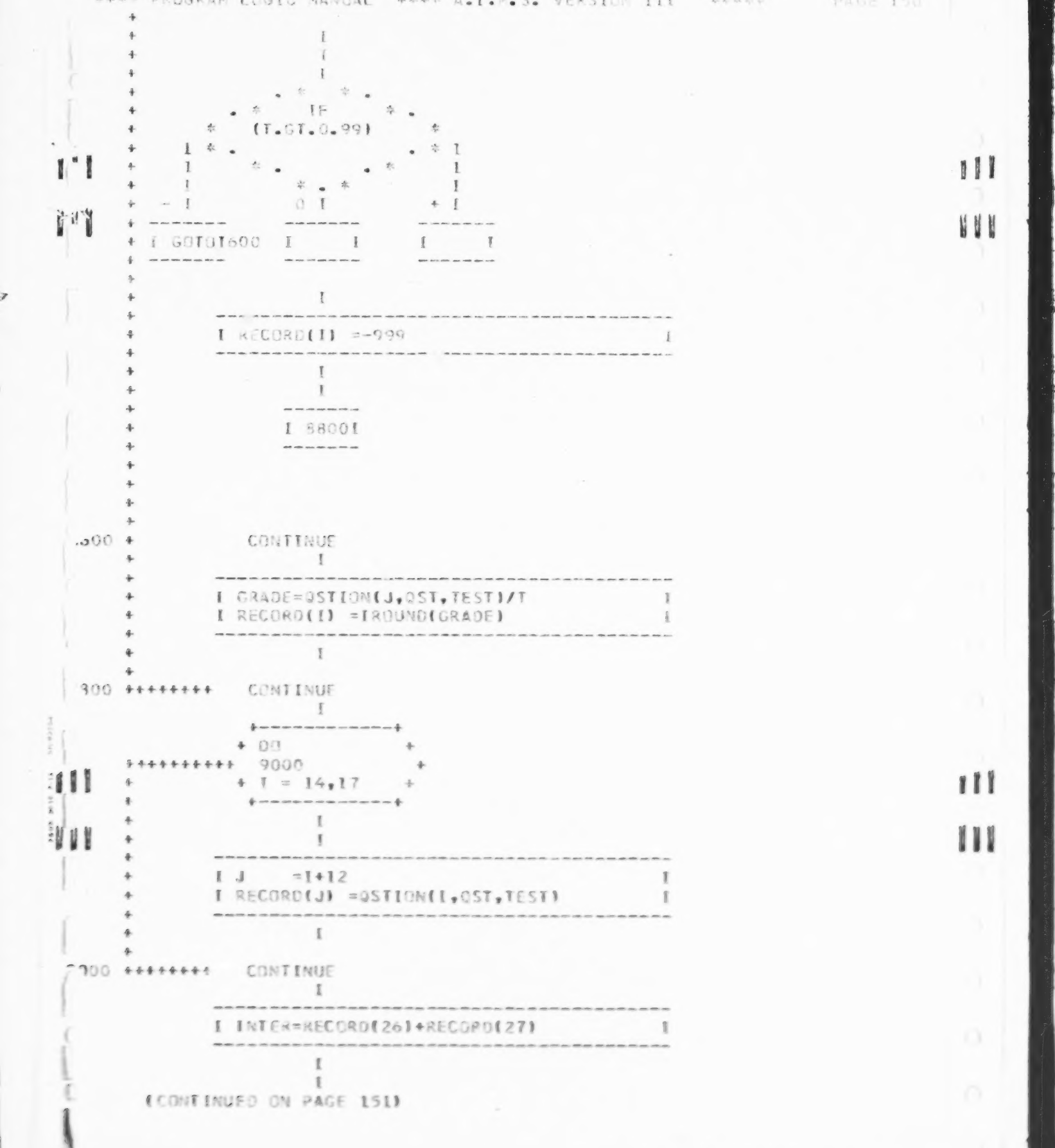


(CONTINUED ON PAGE 150)

FILMED FROM BEST AVAILABLE COPY



(CONTINUED ON PAGE 151)

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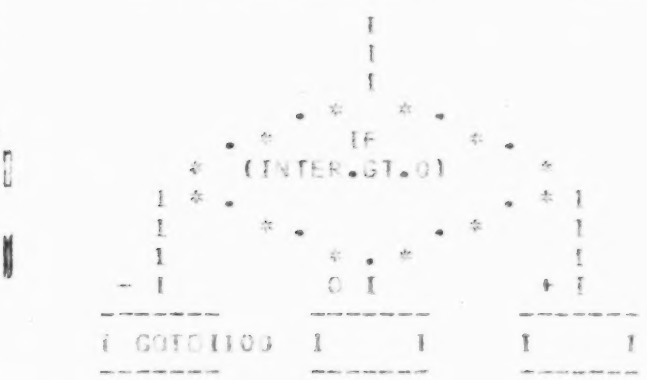
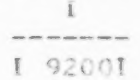
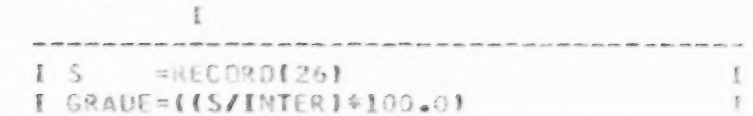


*** RECORD(21) = -999

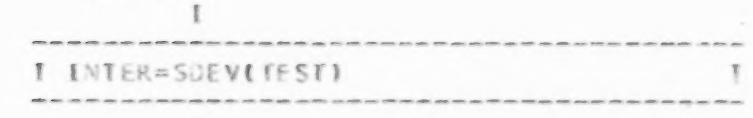


100 CONTINUE



*** RECORD(21) = IROUND(GRADE)

200 CONTINUE



*** RECORD(22) = -999

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(CONTINUED ON PAGE 153)


```
                I
          IDENT(1)=LESSON
                I
          ------------------------------------------
          I IDENT(2) =-4                           I
          I IDENT(3) =0                            I
          I IDENT(4) =0                            I
          I NUMB =NSTUD+5                          I
          I IREC =((LESSON-1)*NUMB)+1              I
          ------------------------------------------
                I

     ***    WRITE(ISCORE'IREC) IDENT , SAMPLE
                I
          ------------------------------------------
          I IDENT(2) =-3                           I
          I IREC =IREC+1                           I
          ------------------------------------------
                I

     ***    WRITE(ISCORE'IREC) IDENT , MEAN
                I
          ------------------------------------------
          I IDENT(2) =-2                           I
          I IREC =IREC+1                           I
          ------------------------------------------
                I

     ***    WRITE(ISCORE'IREC) IDENT , MIN
                I
          ------------------------------------------
          I IDENT(2) =-1                           I
          I IREC =IREC+1                           I
          ------------------------------------------
                I

     ***    WRITE(ISCORE'IREC) IDENT , MAX
                I
          ------------------------------------------
          I IDENT(2) =0                            I
          I IREC =IREC+1                           I
          ------------------------------------------
                I

     ***    WRITE(ISCORE'IREC) IDENT , SDEV

            DO 12000 STDENT = 1,ROSTER
                I
          ------------------------------------------
          I IDENT(2) =STDENT                       I
          I IREC =IREC+1                           I
          ------------------------------------------
                I

     ***    WRITE(ISCORE'IREC) IDENT , (ANSWER(I,STDENT),I=1,10 ) ,
            (SECOND(J,STDENT),J = 1,10)
                I
```

(CONTINUED ON PAGE 154)

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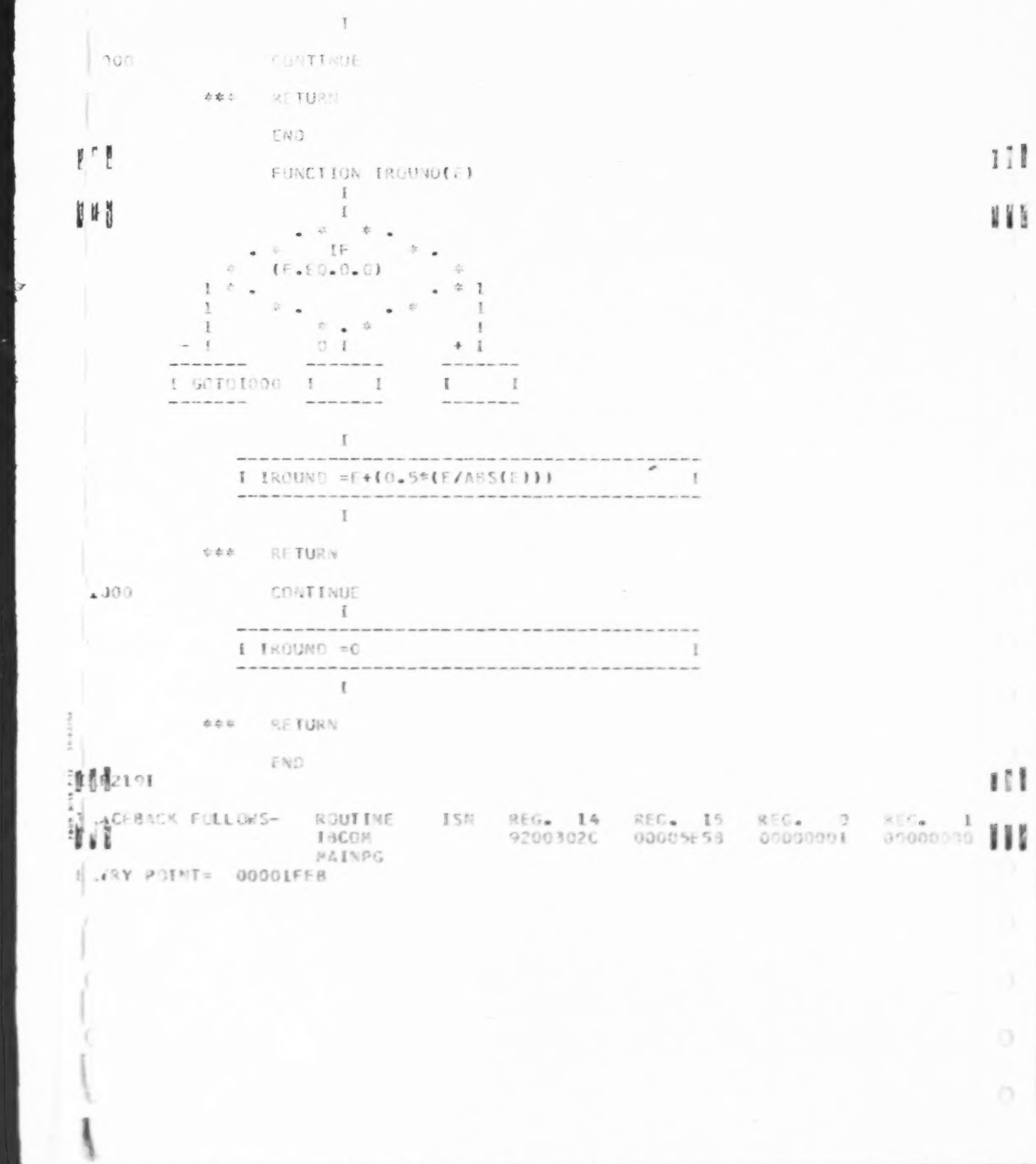

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SECTION III

OPERATIONAL INPUT

CONTROL PROGRAM

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**** PROGRAM LOGIC MANUAL **** A.I.M.S. VERSION III *****

```
      DIMENSION ITEST(3)

      DIMENSION ICOM(46)

      INTEGER HEADER,SYSTEM

      INTEGER ICNTRL(15)

      INTEGER*2 LPERM,NPERM,NOS(50),PERS(50),MEDREC(65)

      DEFINE FILE 5(1500,33,U,I5),
                  6( 800,33,U,I6),
                  7( 200,100,U,I7),
                 8(4000,35,U,I8),
                  9( 250,33,U,I9),
                10(8040,33,U,I10),
                  11( 400,23,U,I11),
                  12( 100,25,U,I12)

      INTEGER*2 IVECT(4,10,40)

      COMMON/CHKREC/IVECT

      COMMON /SYSTEM/ MLESS,NDECK,NREX,NQUEST,NSTUD

      COMMON /FILES/ IFILES(15)

      EQUIVALENCE (IFILES(1),ICD),(IFILES(3),IPT), (IFILES(6),HEADER),
     (IFILES(12),SYSTEM)

      DATA IT/'(CA'/,IS/'RDS '/,IHE/'HEAD'/,ISTU/'STUD'/,ITP/'NOTA'/

      LOGICAL*1 FIRST
```


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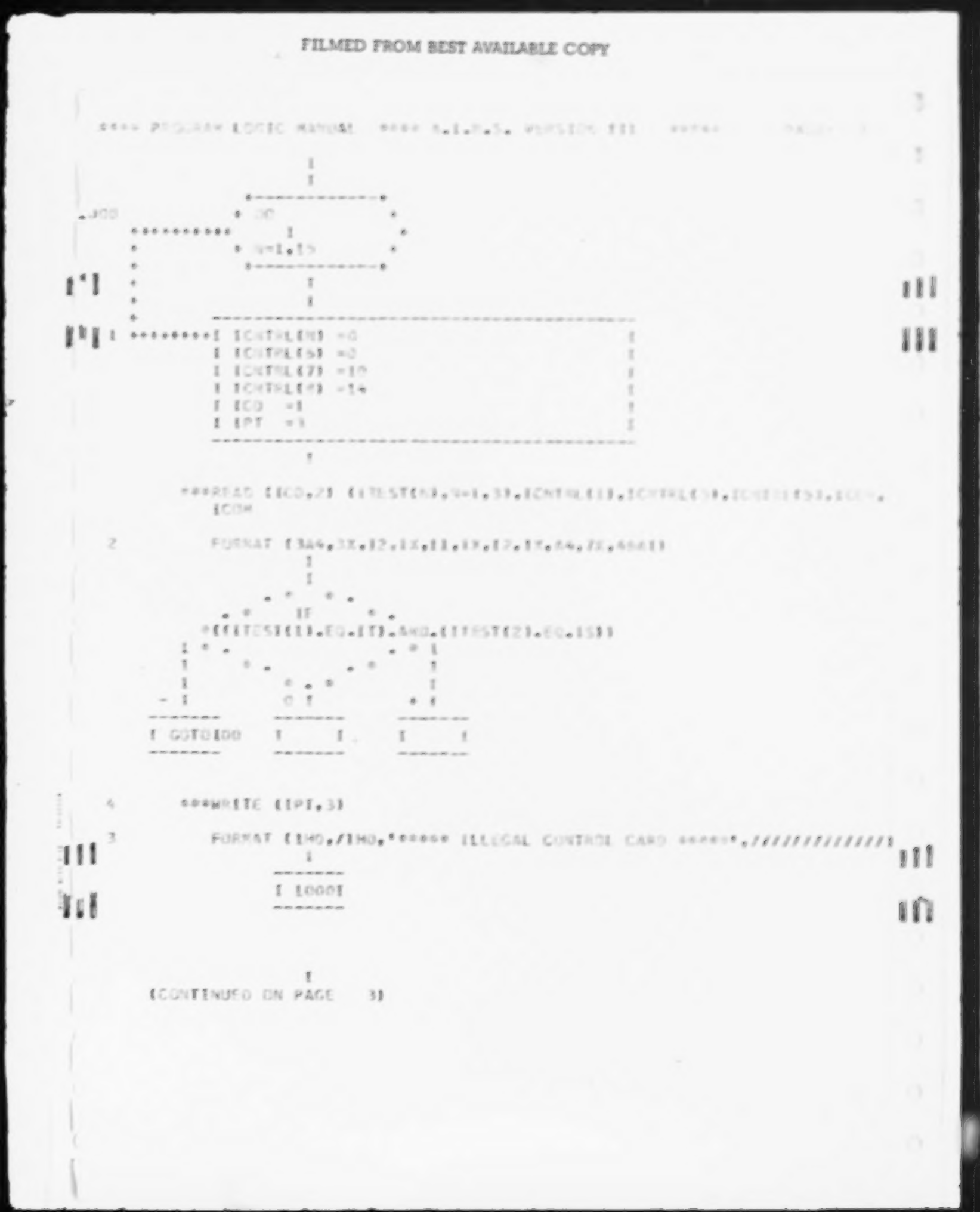

(CONTINUED ON PAGE 3)

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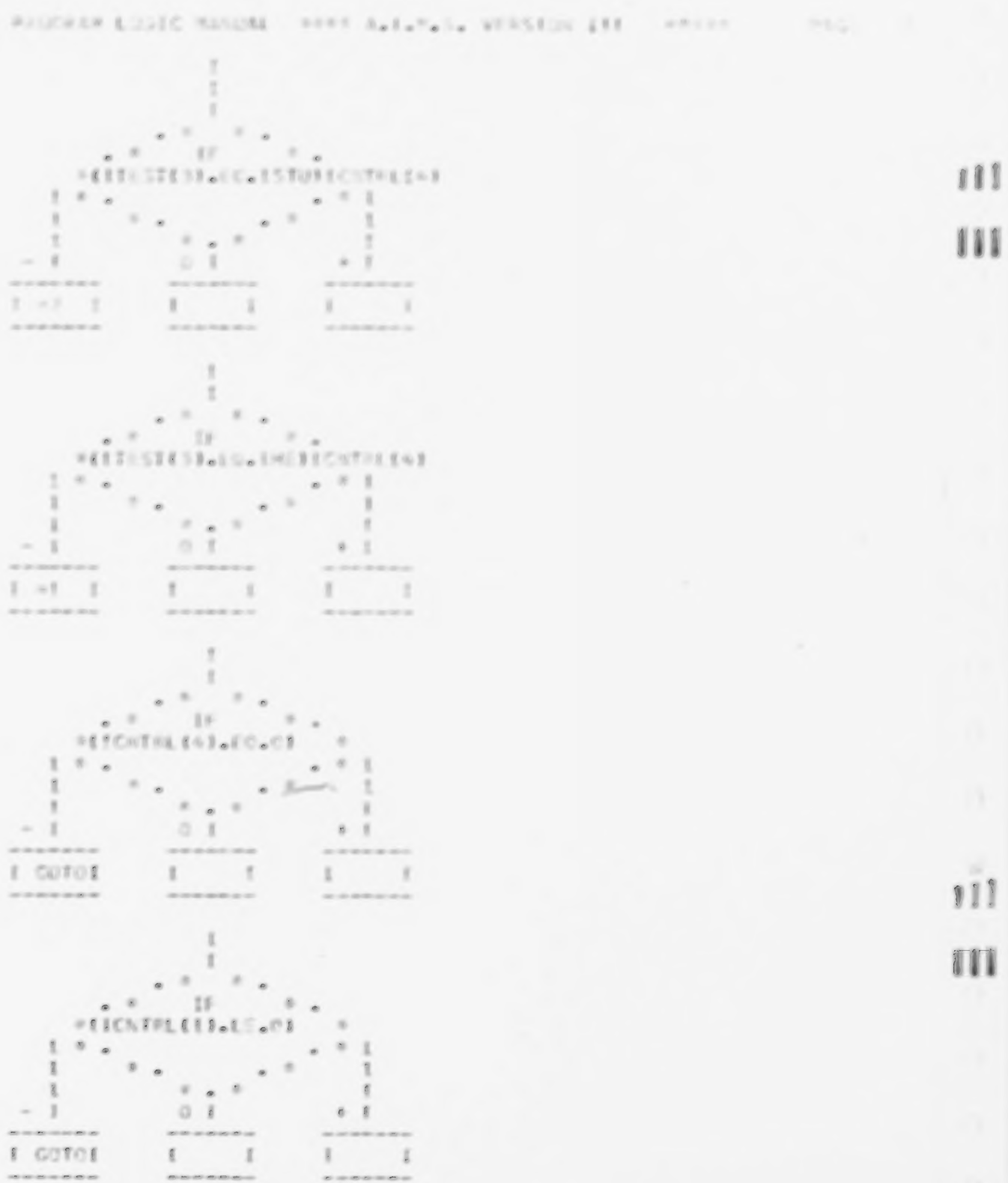

(CONTINUED ON PAGE 49

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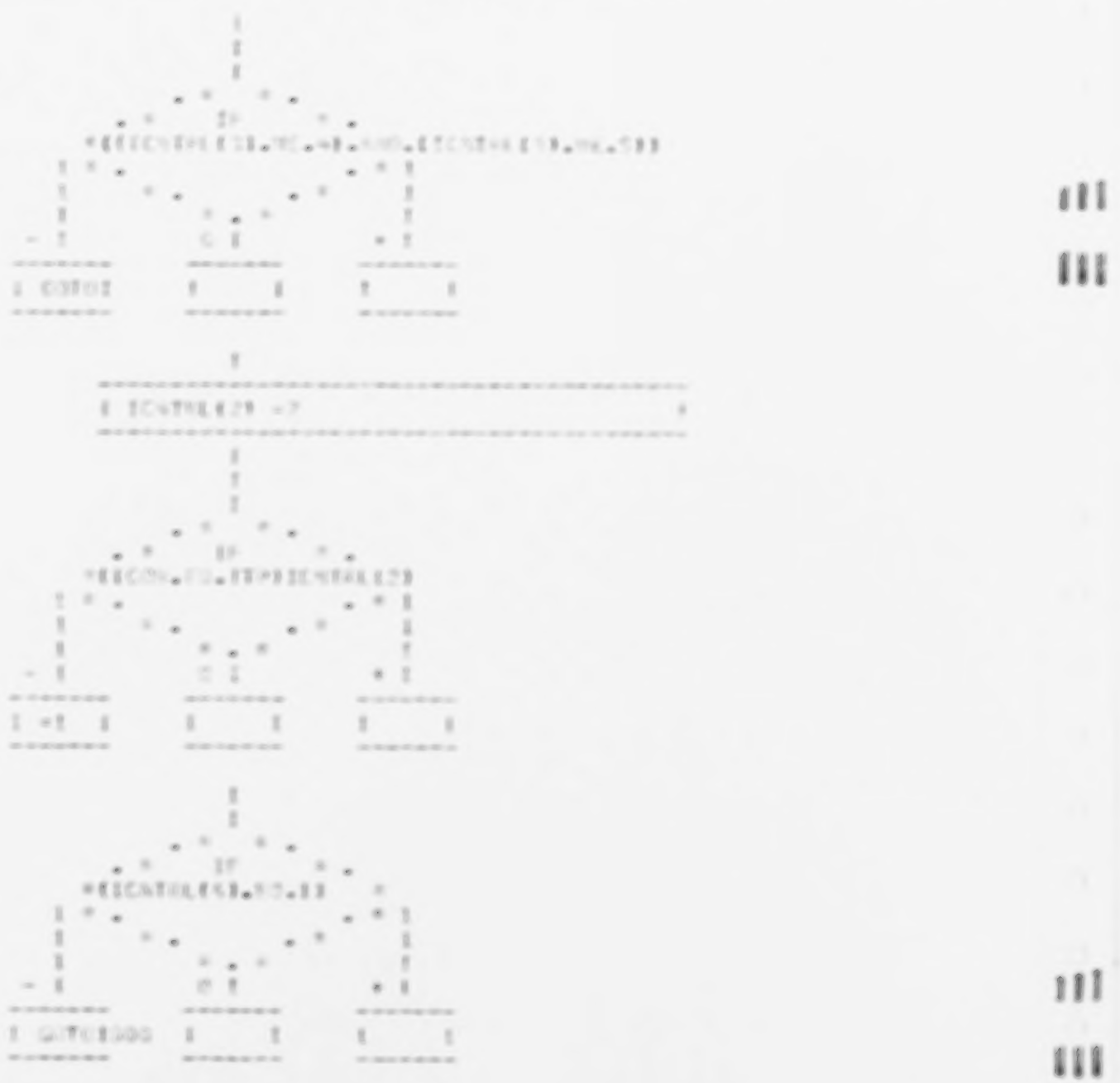

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(CONTINUED ON PAGE 51)

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```
    *
    *               I
    *
7001 ********CONTINUE
                    I
          ----------------------------------------
 700      I FIRST=.TRUE.                         I
          ----------------------------------------
                    I
 4001     FORMAT (1H1,/1H0,3A4,3X,I2,1X,I1,1X,I2,1X,A4,7X,4A81,//)
       ***WRITE (IPT,4001) ITEST,ICNTRL(1),ICNTRL(3),ICNTRL(5),ICON,ICON
          CALL CARDS(ICNTRL,IVECT,FIRST)
          CALL EXIT
          END
I #7151

TRACEBACK FOLLOWS-   ROUTINE    ISN   REG. 14    REG. 15    REG. 0     REG. 1
                     IBCOM            9200307C   0000SE58   00000001   0000000[illegible]
                     MAINPG
ENTRY POINT= 0000IFF8
```

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SECTION IV

OPERATIONAL INPUT SUBPROGRAMS

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**** PROGRAM LOGIC MANUAL **** S.I.M.S. VERSION III ****

SUBROUTINE CAPTSEIZE(*,IVEC1,*RETN)

LOGICAL*1 FIRST

LOGICAL*1 CHANLY

DIMENSION IENTRE(5)

LOGICAL*1 ACTION

EQUIVALENCE(IENTRE(5),ACTION)

EQUIVALENCE(IVEC2E(4,1),IVEC)

EQUIVALENCE(ANTAE(40),ALOC(4))

EQUIVALENCE(IEQUIP(29),NOPCOL(23))

EQUIVALENCE(SWBTIN

EQUIVALENCE(IO1,IO2,IO3,IO4,IO5

DATA IDCOLS/4,1

DATA NUMCOL/7

COMMON /FILES/ ICO,IPC,IPI,IAI,IICH,MEADM,IOF,IOUT,IPRINT,ISCRN
,IERRT,SYSTEM

IPI =5

ISTAPE=ICHNEL(3)

ITERM=14

LEFT =1

RIGHT=2

ACCEPT=ICHNEL(4)

(CONTINUED ON PAGE 29

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```
                    |
                    |
                    |
```

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(CONTINUED ON PAGE 41)

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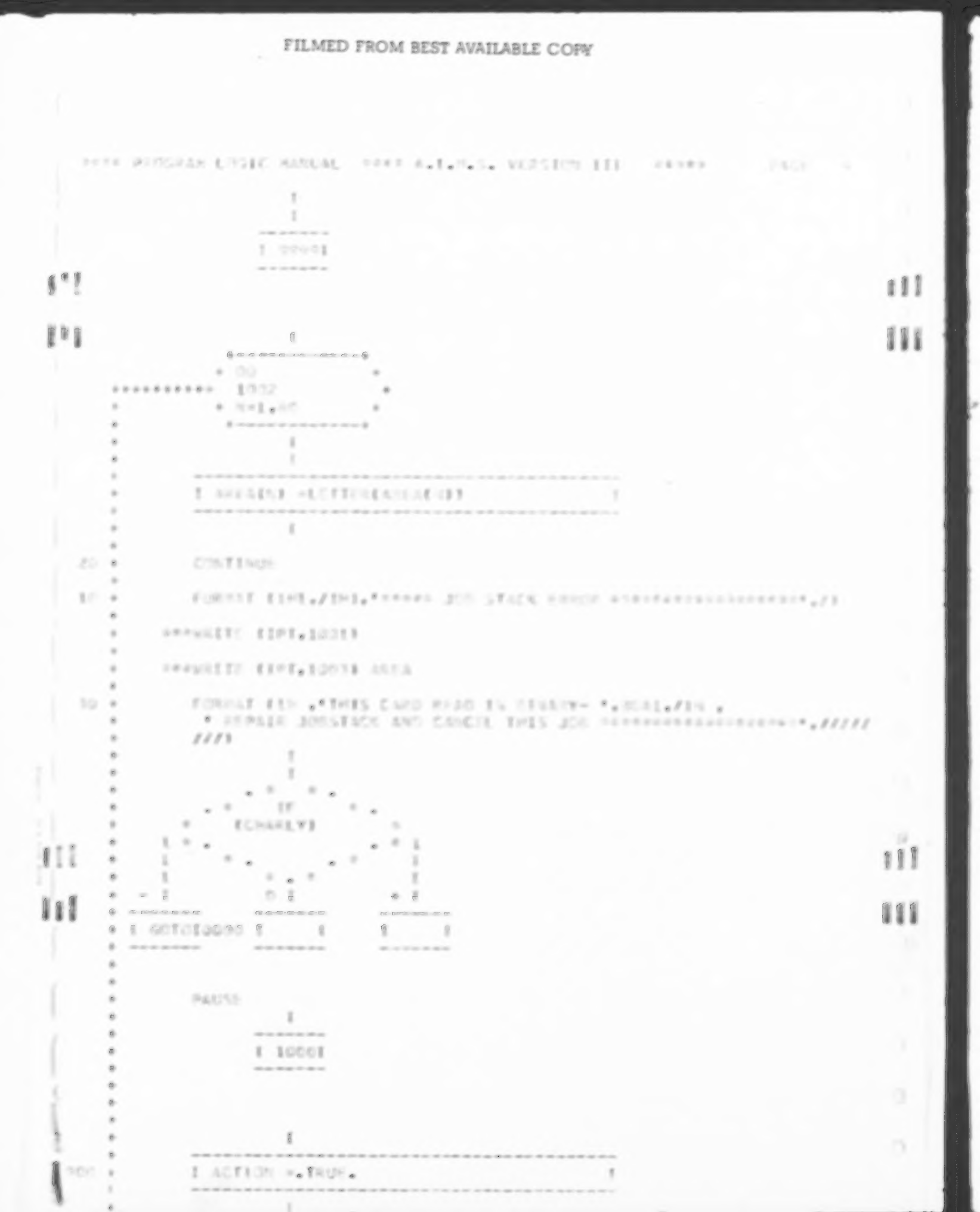

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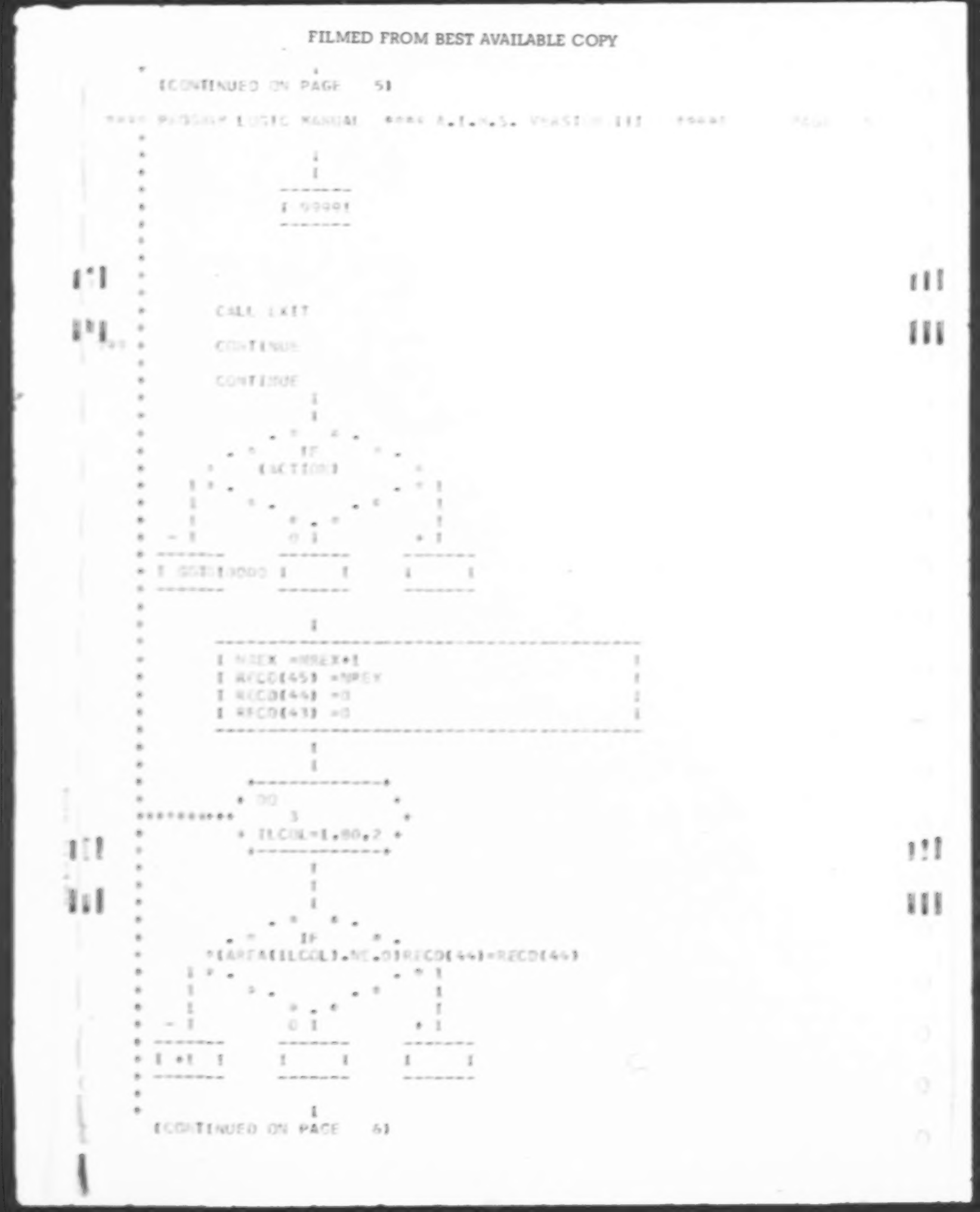

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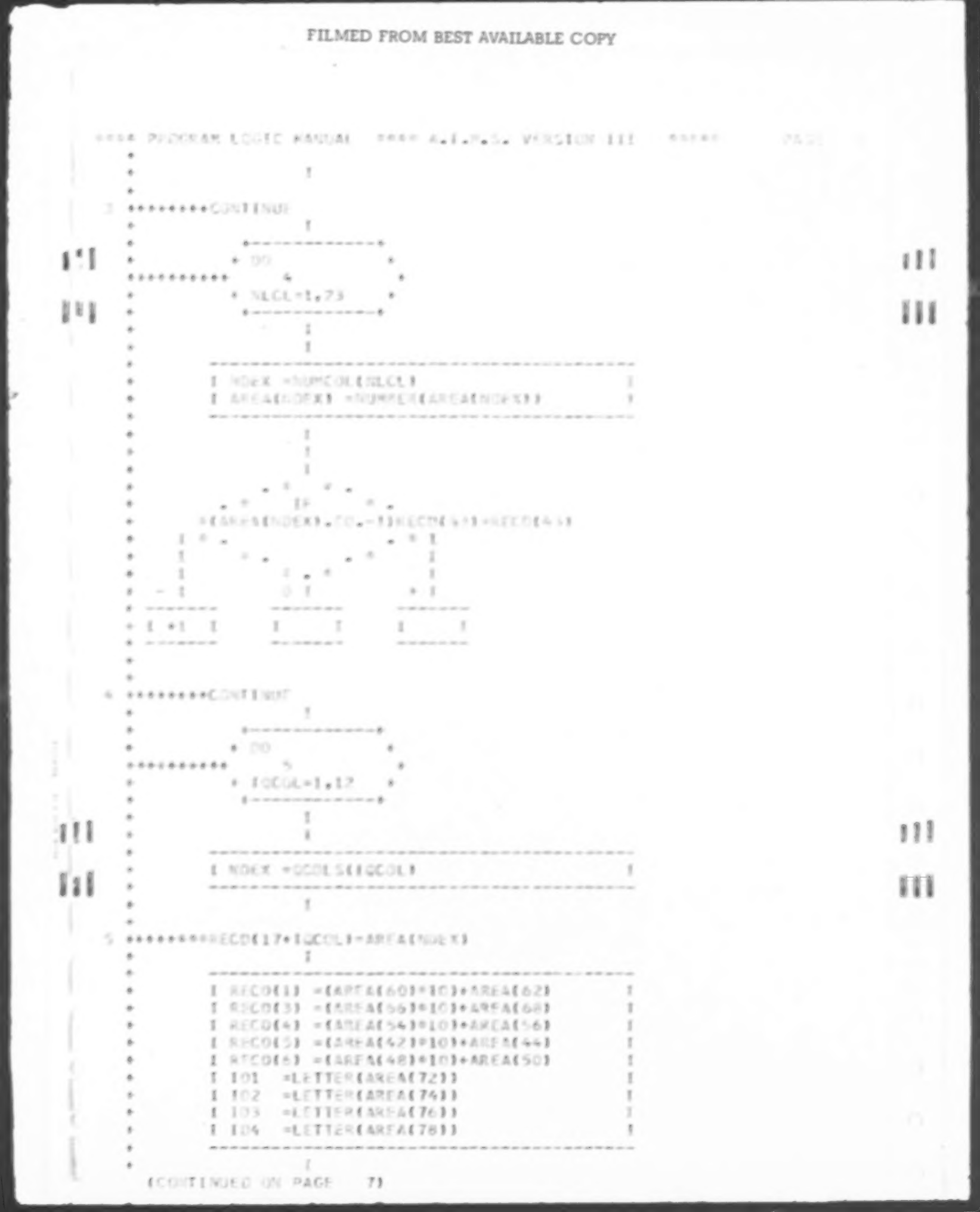

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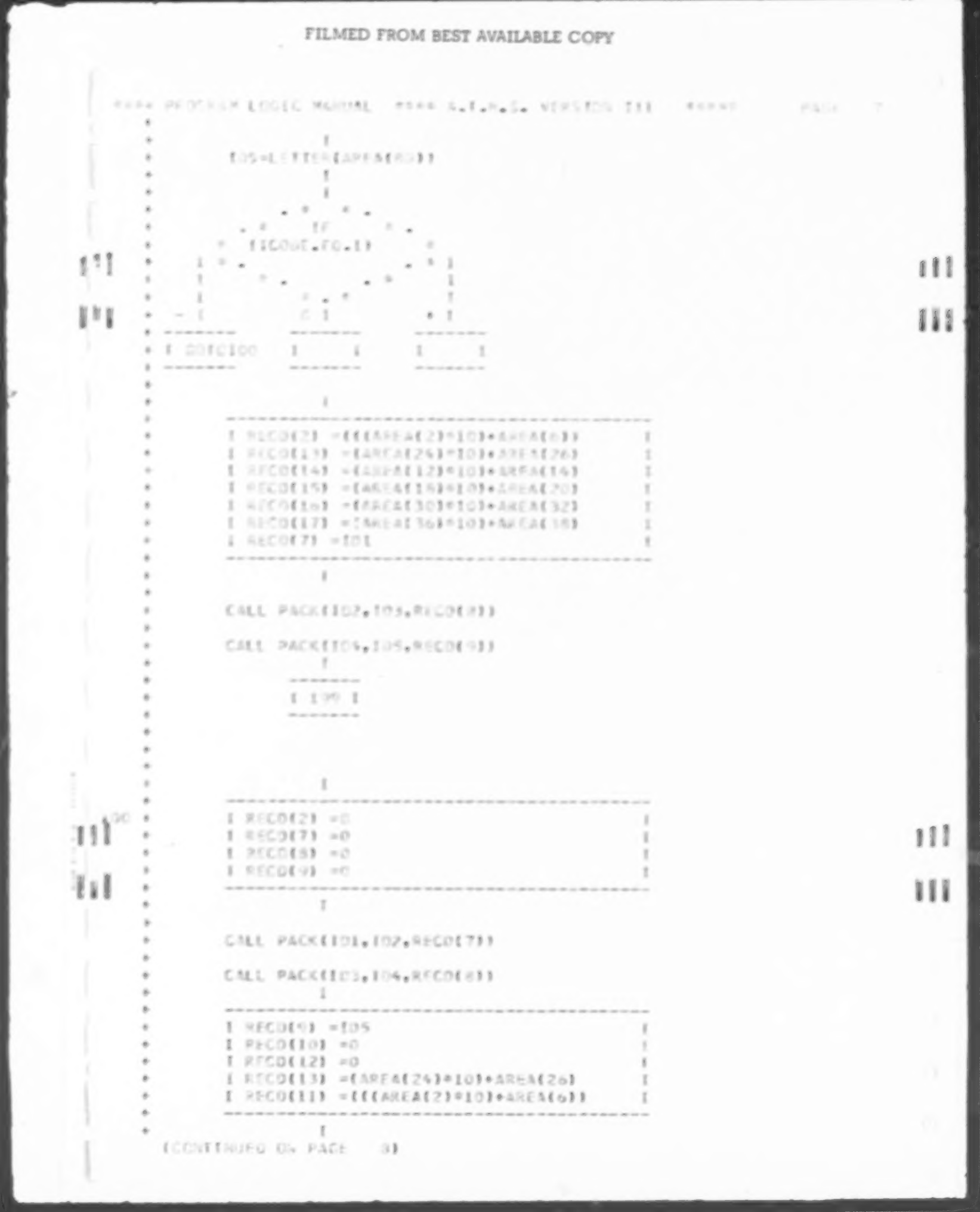

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```
      CALL MERGE(RECD,ICNTRL,IVECT,FIRST)

200   CONTINUE
                 I
              -------
              I 2   I
              -------




      CONTINUE

      END FILE ITAPE

   ***NEWIND ITAPE

      CONTINUE

   ***RETURN

      END

      SUBROUTINE MERGE(RECD,ICNTRL,IVECT,FIRST)

      DIMENSION ICNTRL(15)

      INTEGER OUTAP

      INTEGER*2 ISAVE

      INTEGER*2 S,D

      INTEGER*2 CE,LF,T

      INTEGER*2 ILES

      INTEGER*2 RECD(45)

      INTEGER*2 IVECT(4,10,40)

      INTEGER*2 CHARC(45)

      INTEGER*2 OUTPUT(65)

      INTEGER*2 ARRAY,ITAPE,JTYPE,WORK
                 I
(CONTINUED ON PAGE   8)
```

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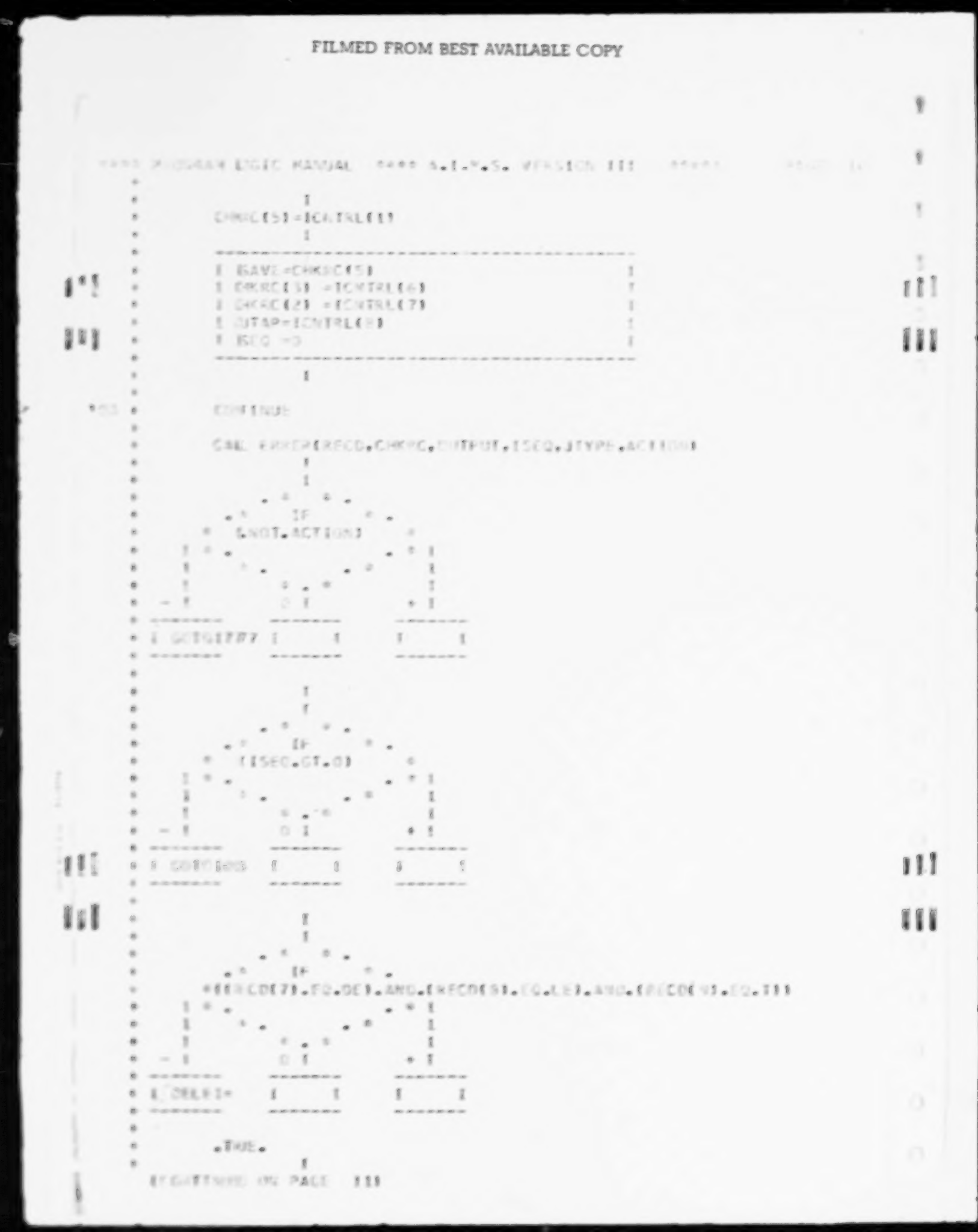

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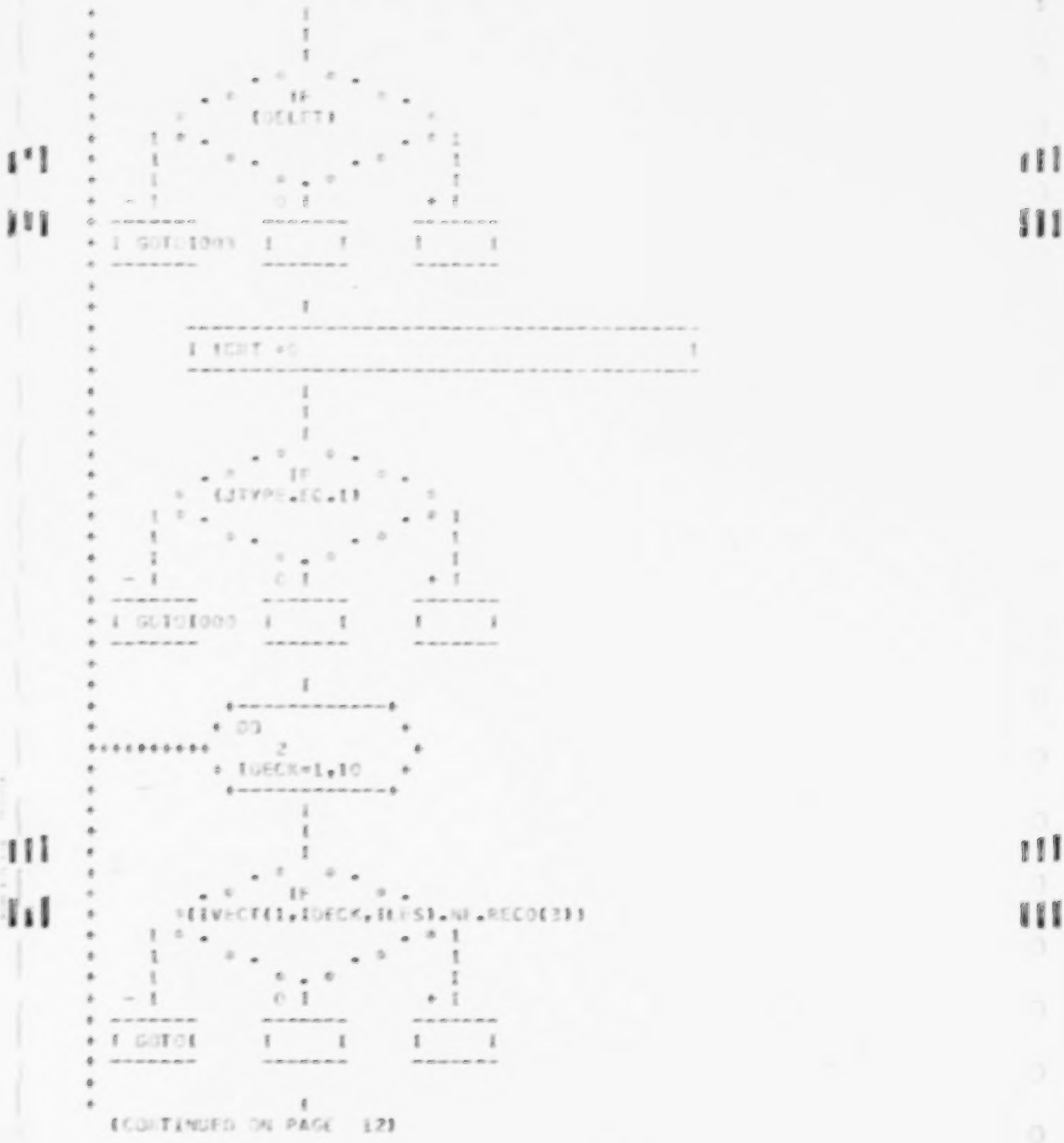

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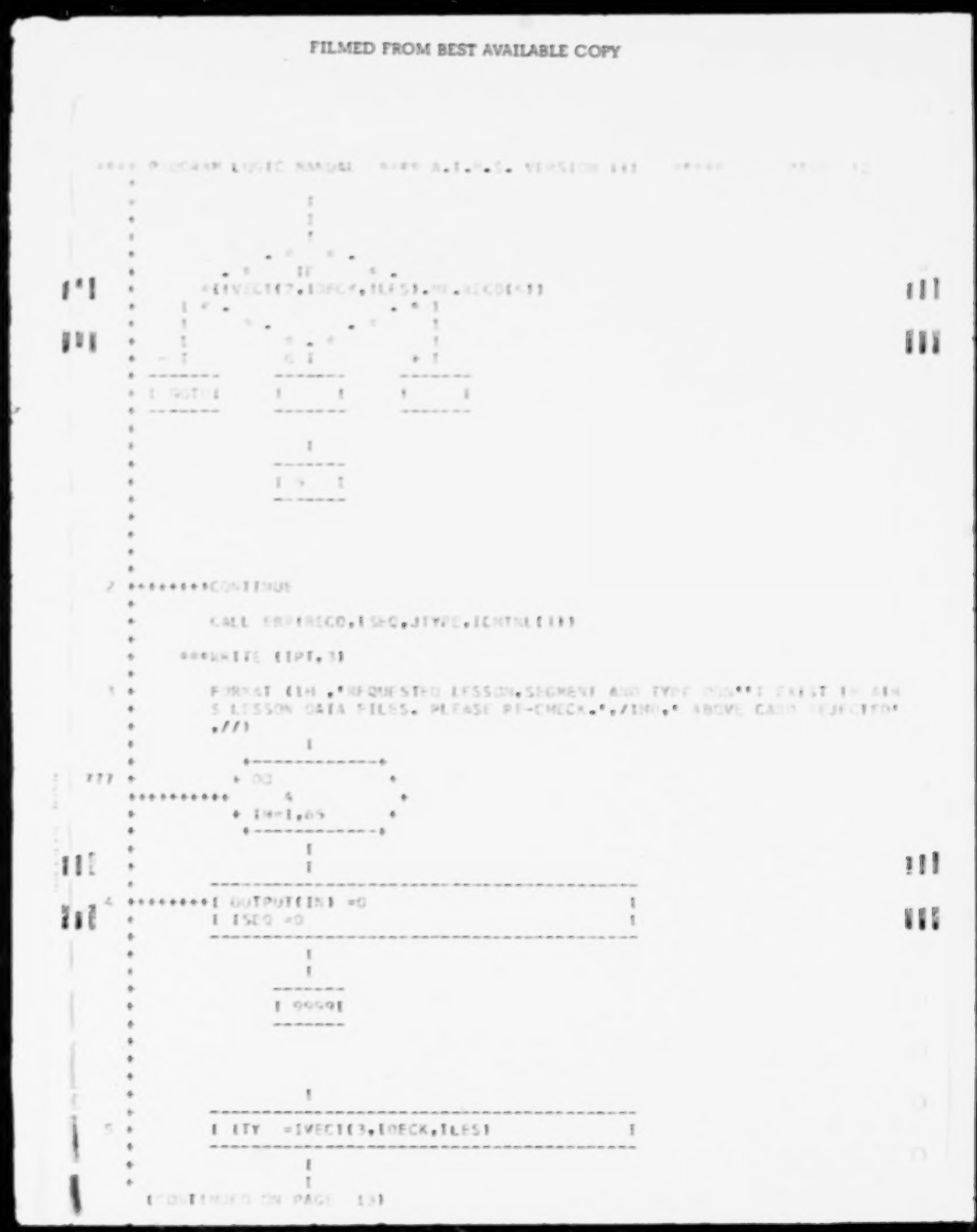

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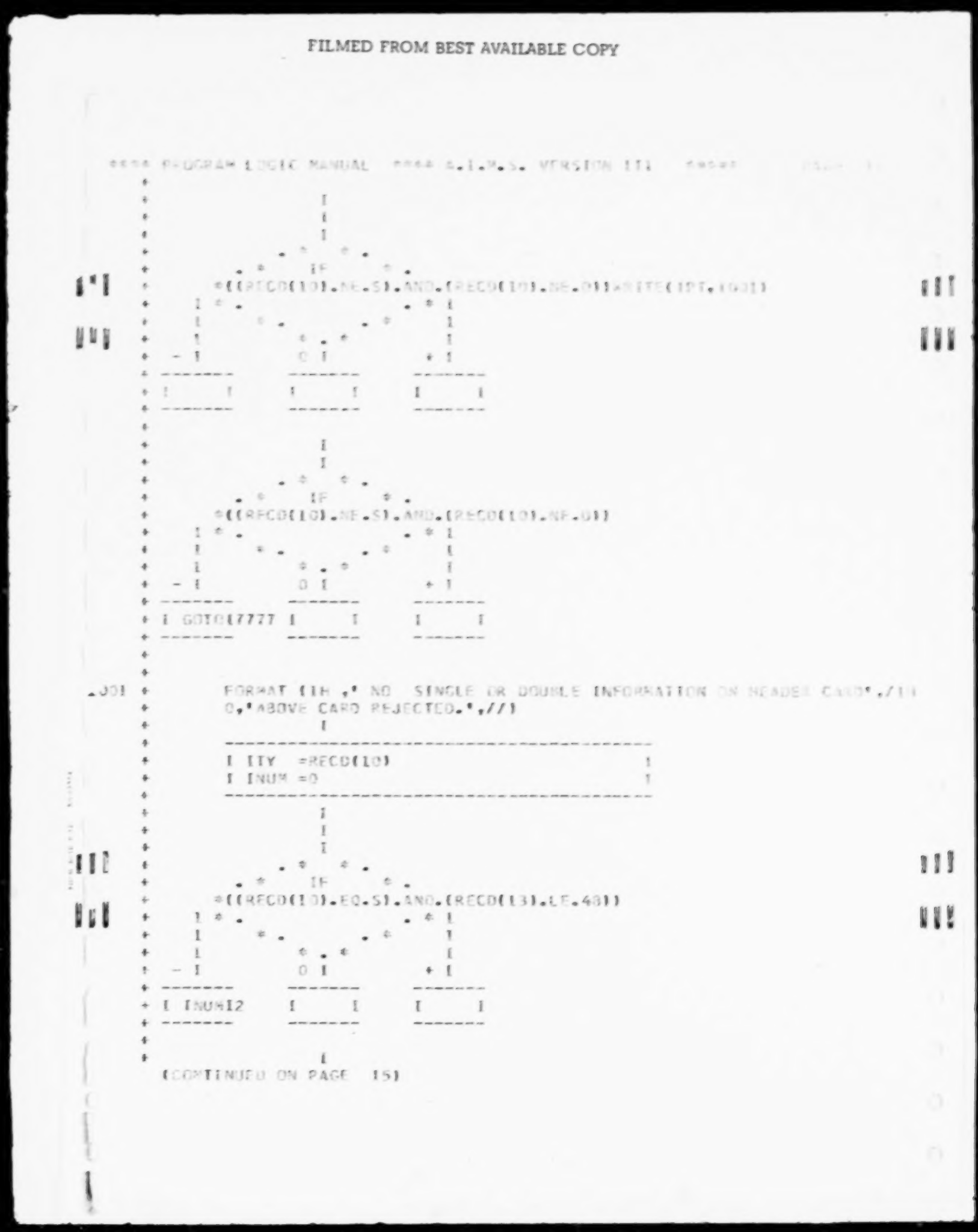

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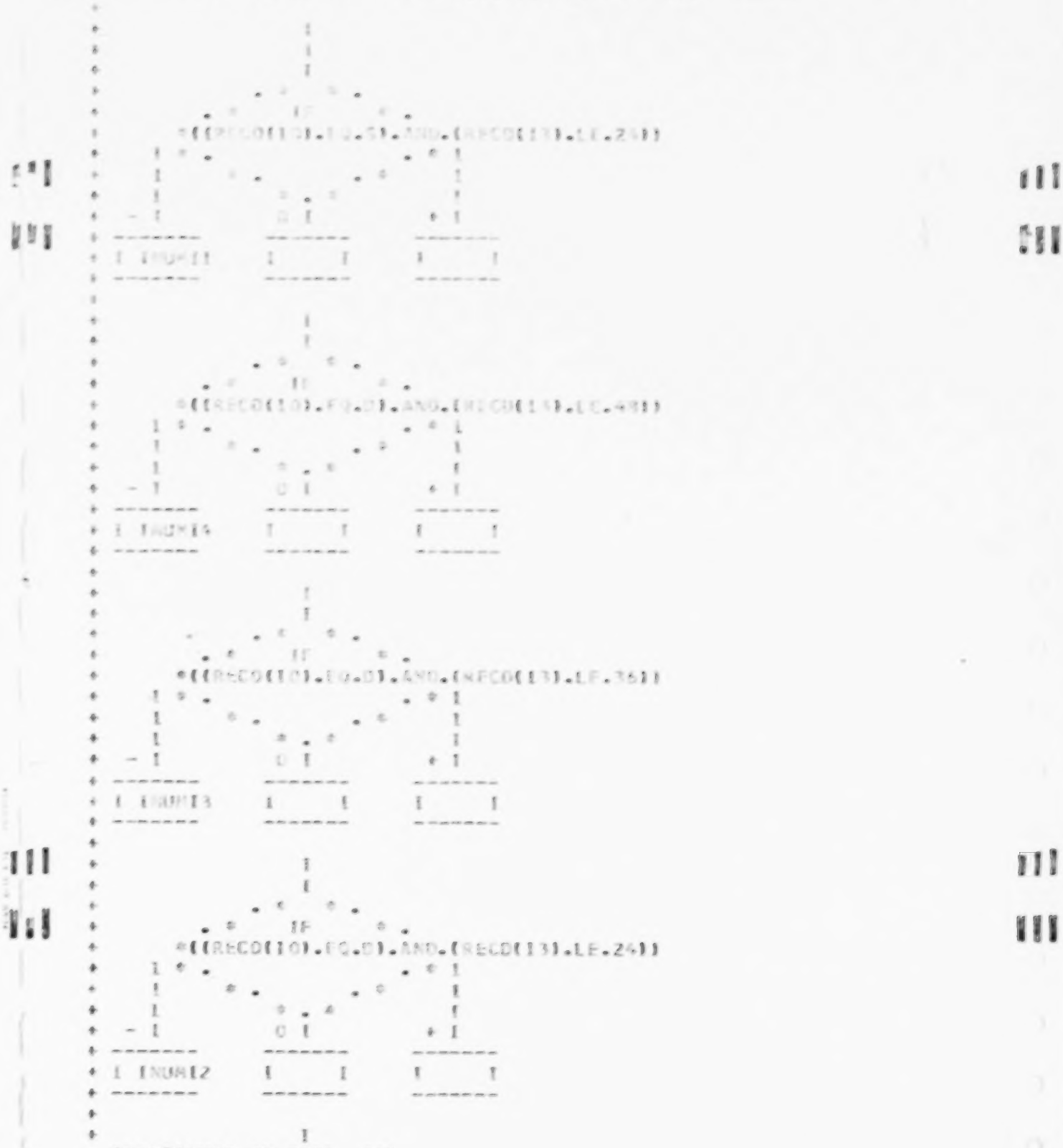

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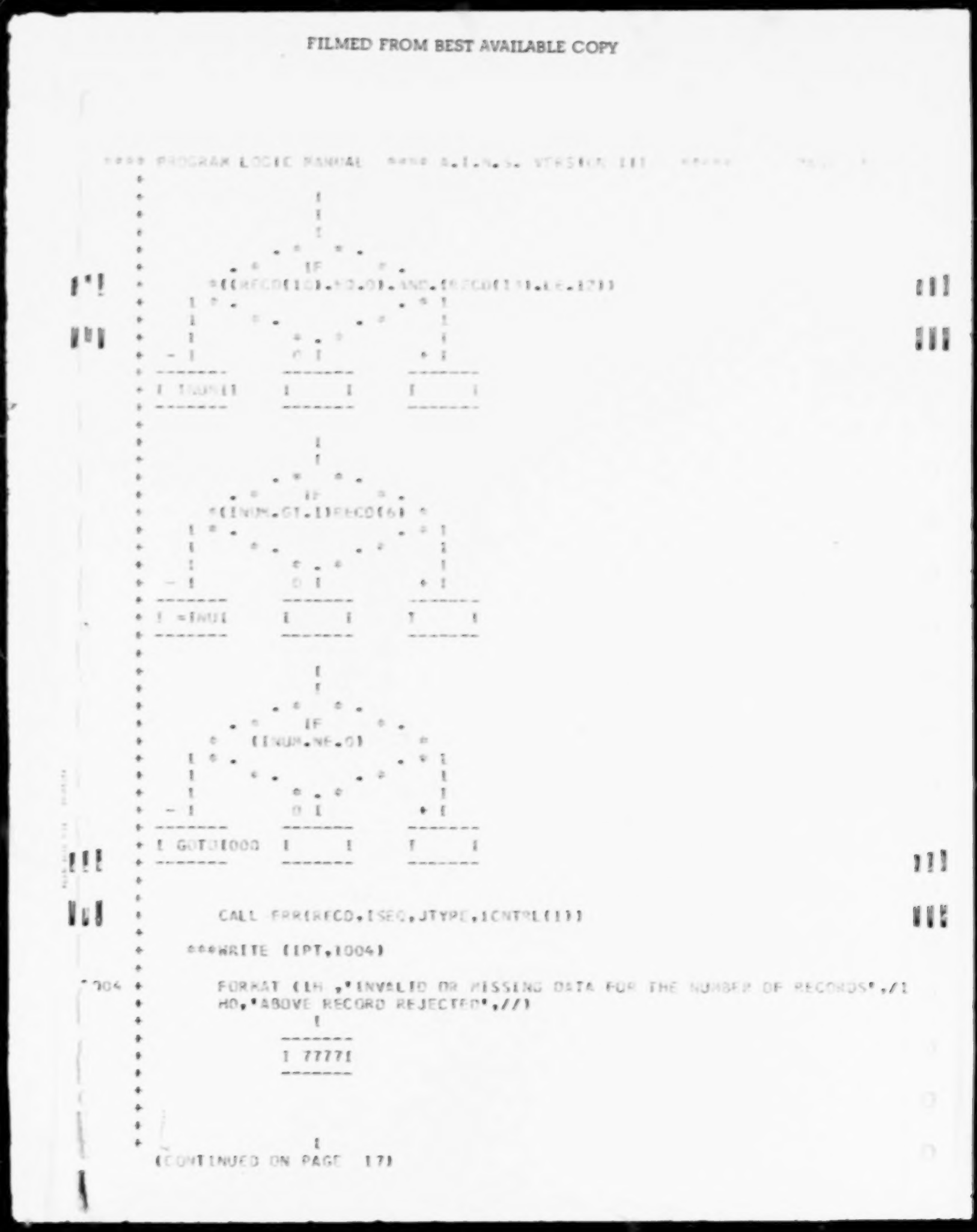

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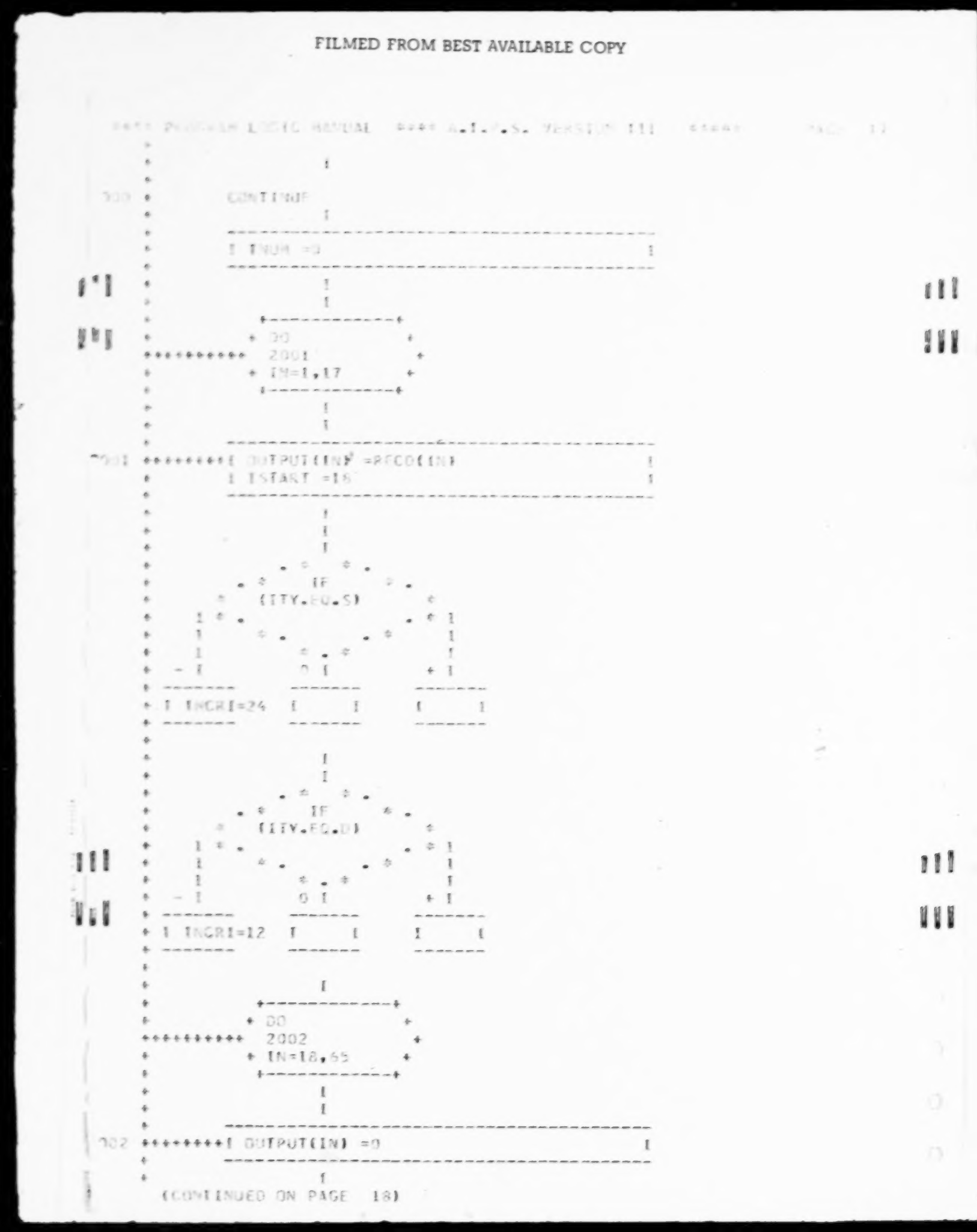

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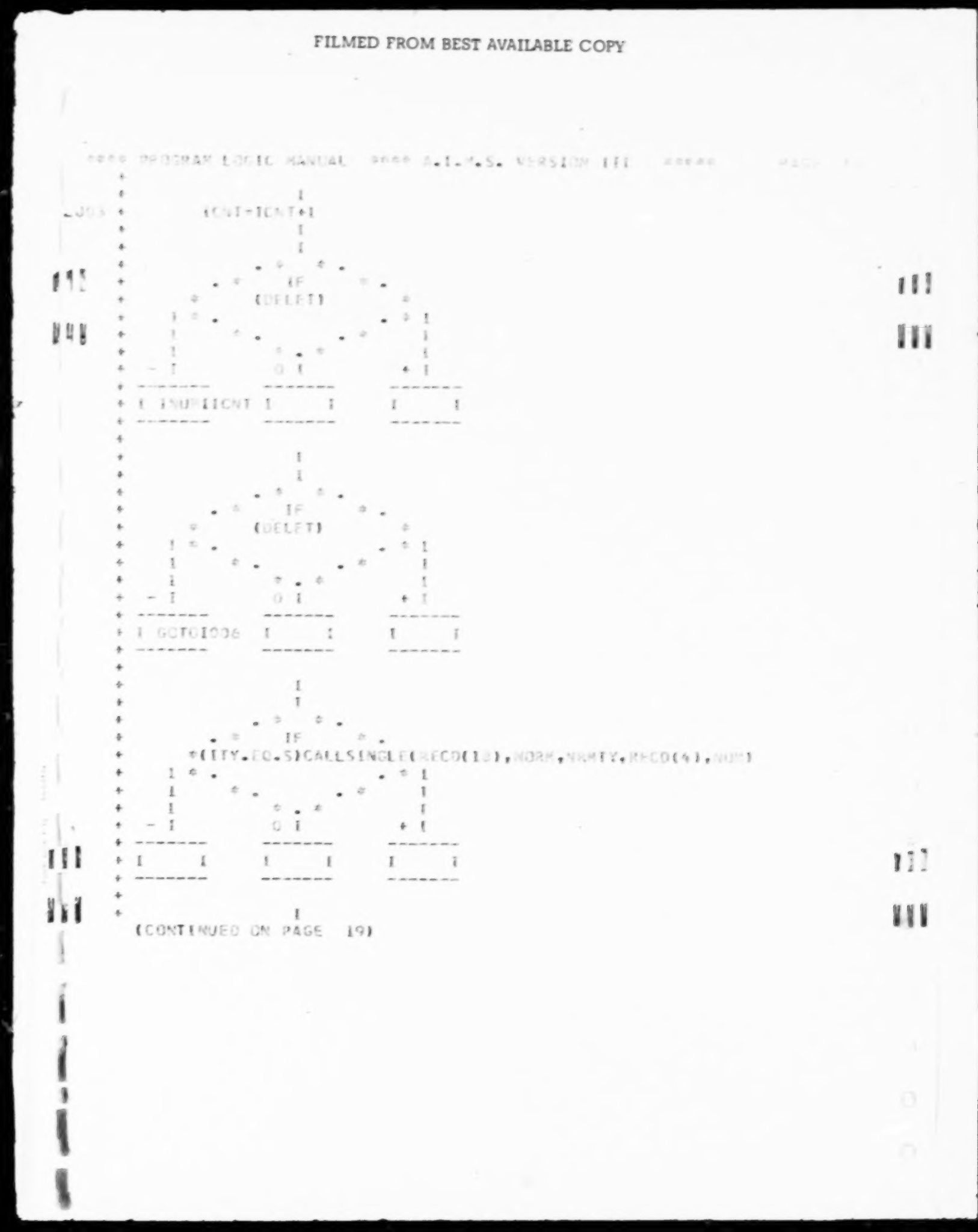

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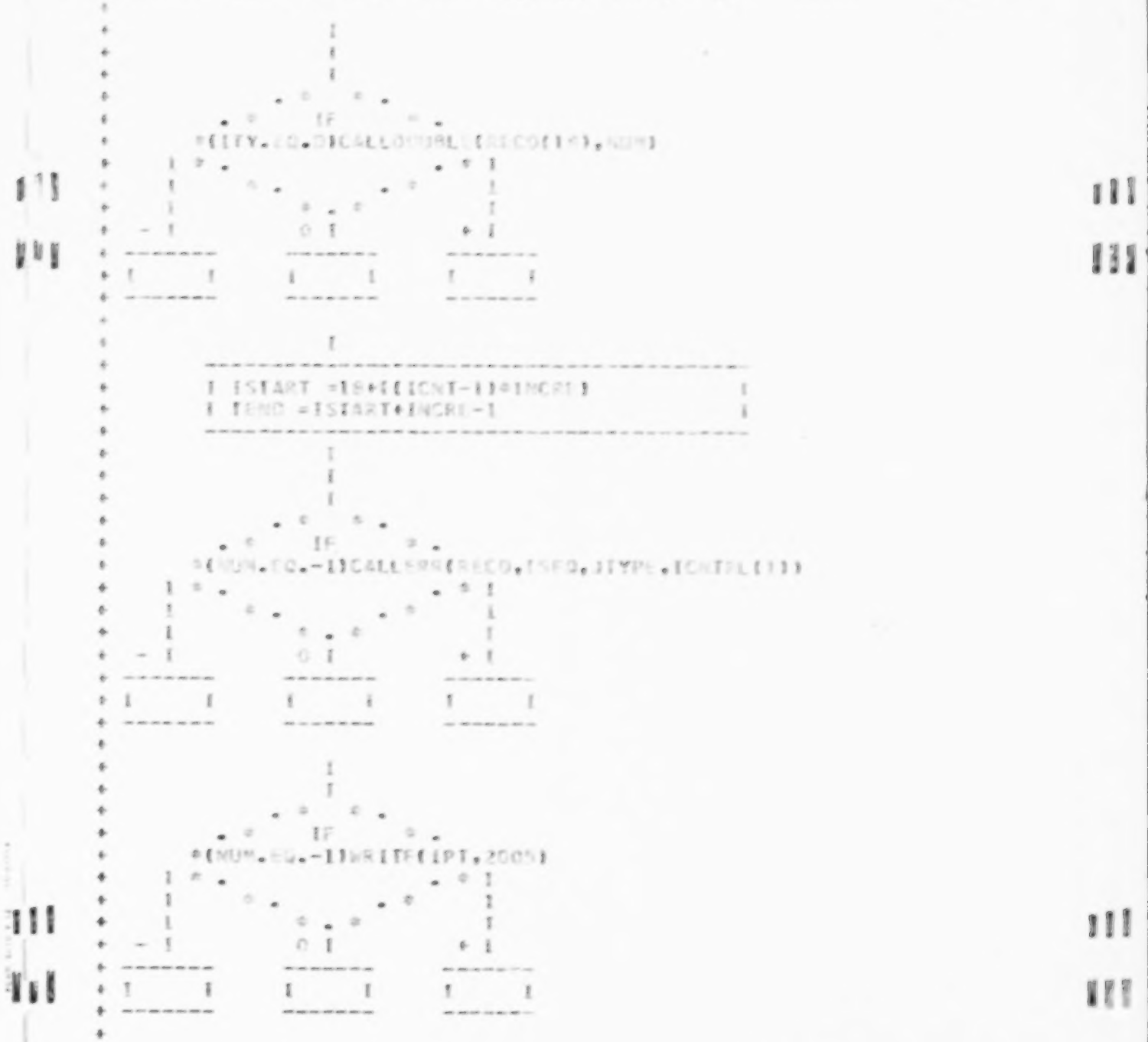

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```
      CONTINUE

      WRITE (OUTAP) (OUTPUT(INK),INK=1,65)

      WRITE(3,6003)(OUTPUT(IUM),IUM=1,65)

6003  FORMAT(4(2016,/))
```

(CONTINUED ON PAGE 22)

```
                 I
                 I
              -------
              I 7777I
              -------

 299       CONTINUE
                 I
           ---------------------------------------
           I CHKRC(5) =ISAVE                     I
           ---------------------------------------
                 I

 301       CONTINUE

      ***RETURN

           END

           SUBROUTINE ERRFR(RECO,CHKRC,AREA,SEQ,JTYPE,ACTION)

           INTEGER SEQ

           INTEGER*2 ICRES

           INTEGER*2 JTYPE

           INTEGER*2 RECO(45),CHKRC(45),AREA(65)              ,INFORM(12)

           INTEGER*2 DE,LE,T

           INTEGER*2 SP

           LOGICAL*1 CONTRL(45),CKTRL(45)

           LOGICAL*1 DELET

           LOGICAL*1 INTC,ILCOL,ACTION,P

           LOGICAL*1 FALSE,TRUE

           LOGICAL*1 NUMS

           EQUIVALENCE(CNTRL(1),CONTRL(1))

           COMMON /SYSTEM/NLCSS,NDECK,NREX,NQUEST,NSTUD

           DATA SP/' '/

           DATA DE/'DE'/,LE/'LE'/,T/'T'/
                 I
           ---------------------------------------
           I IERR =0                             I
           I MIDDLE =0                           I
           ---------------------------------------
                 I
```

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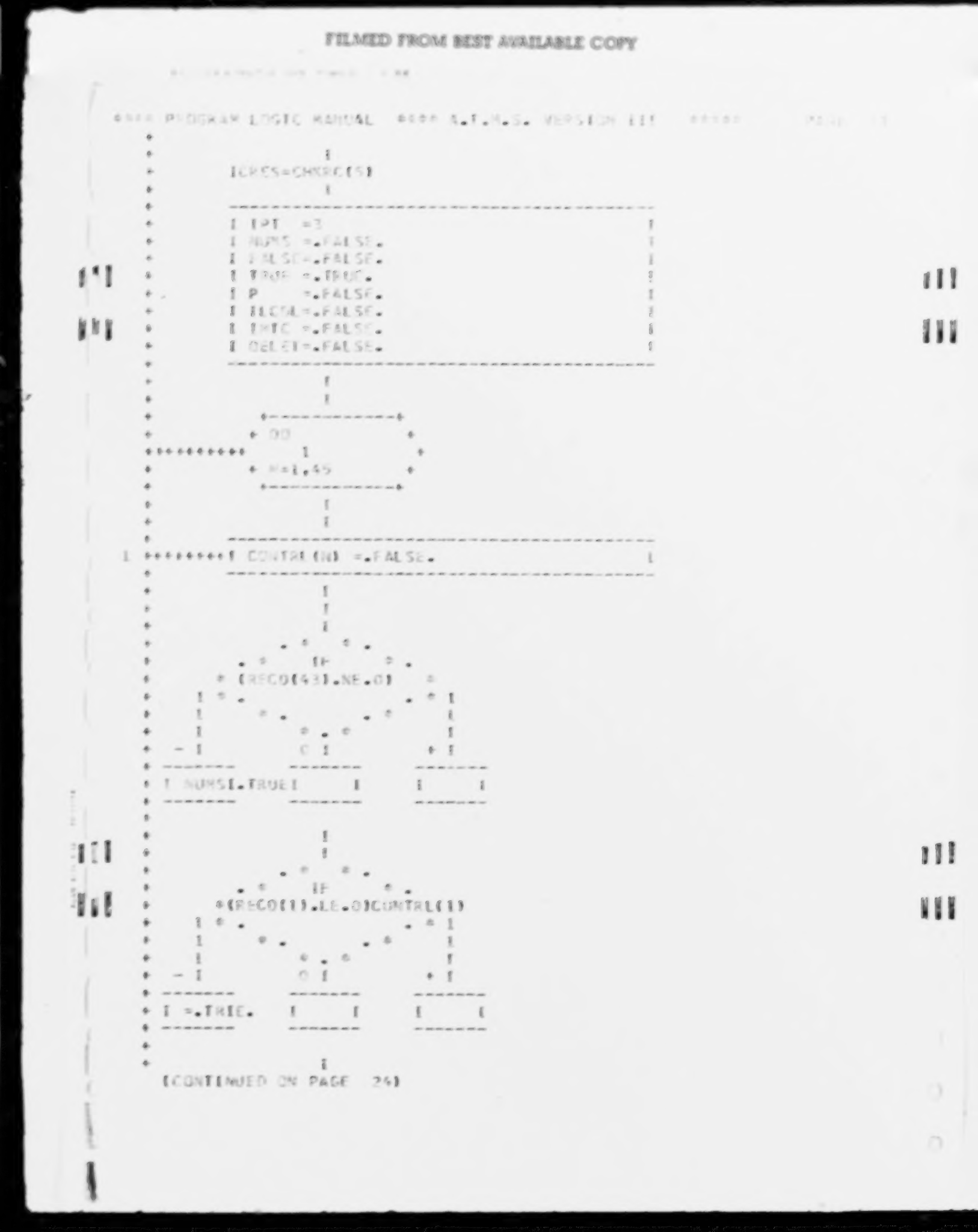

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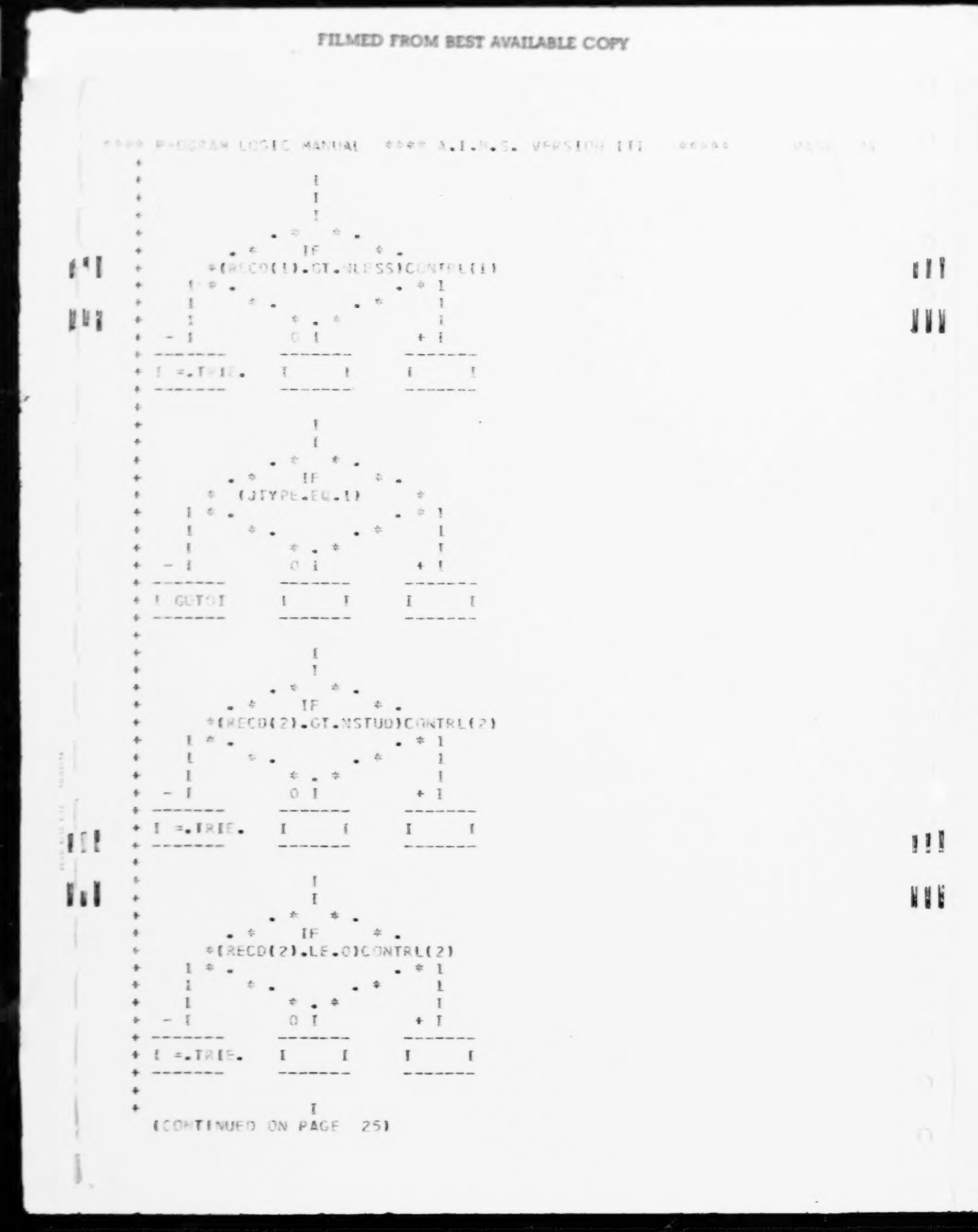

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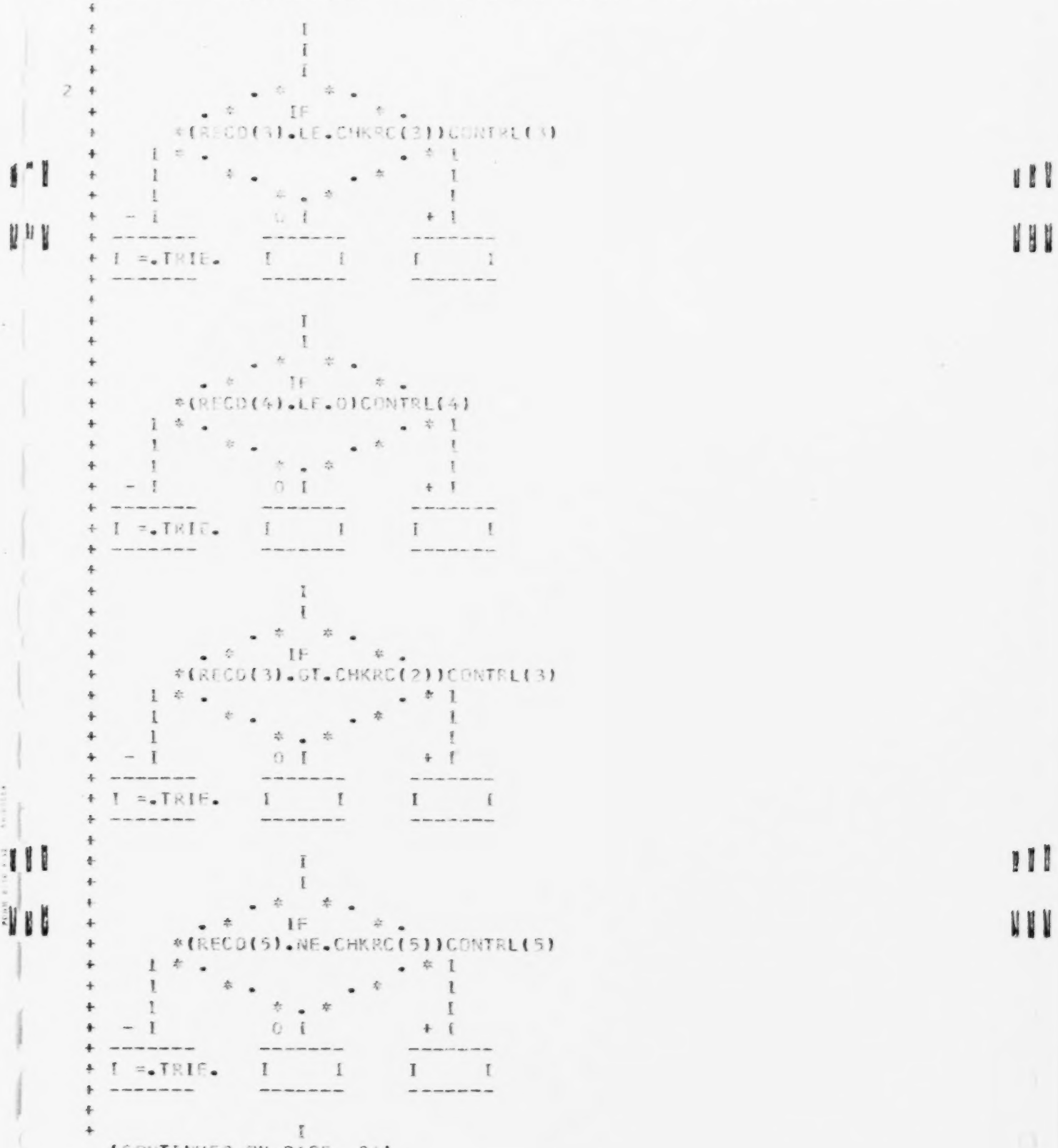

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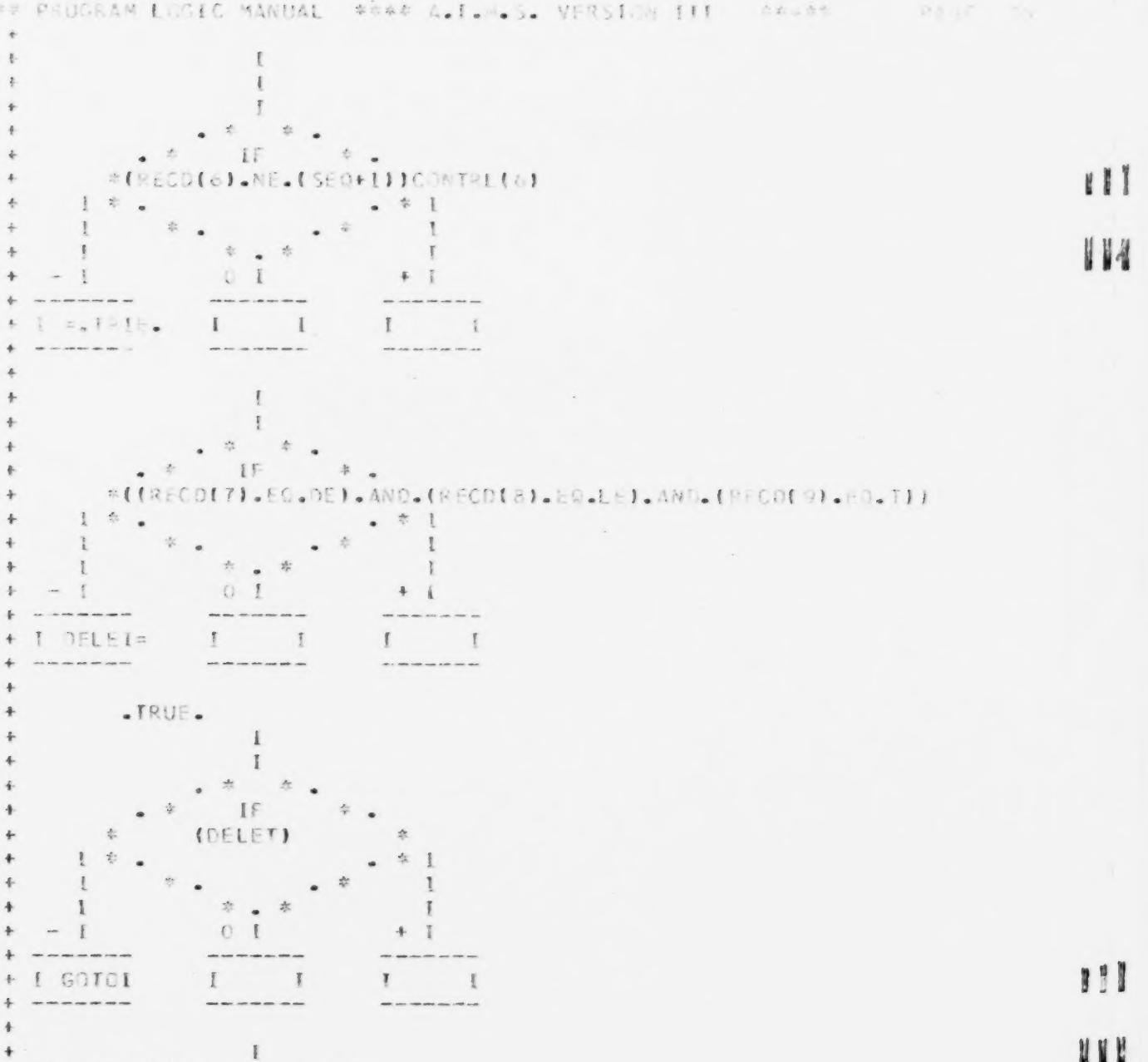

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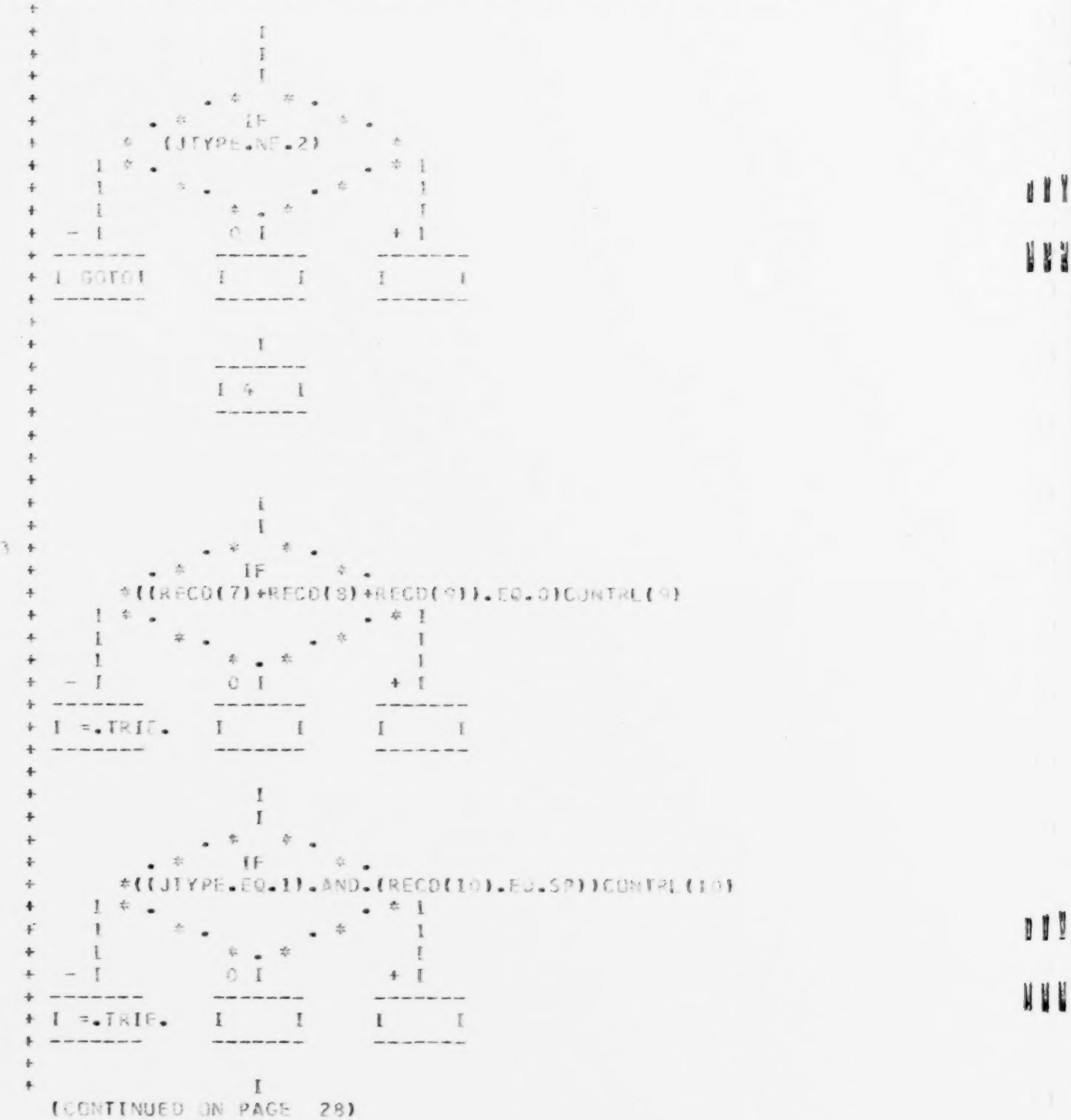

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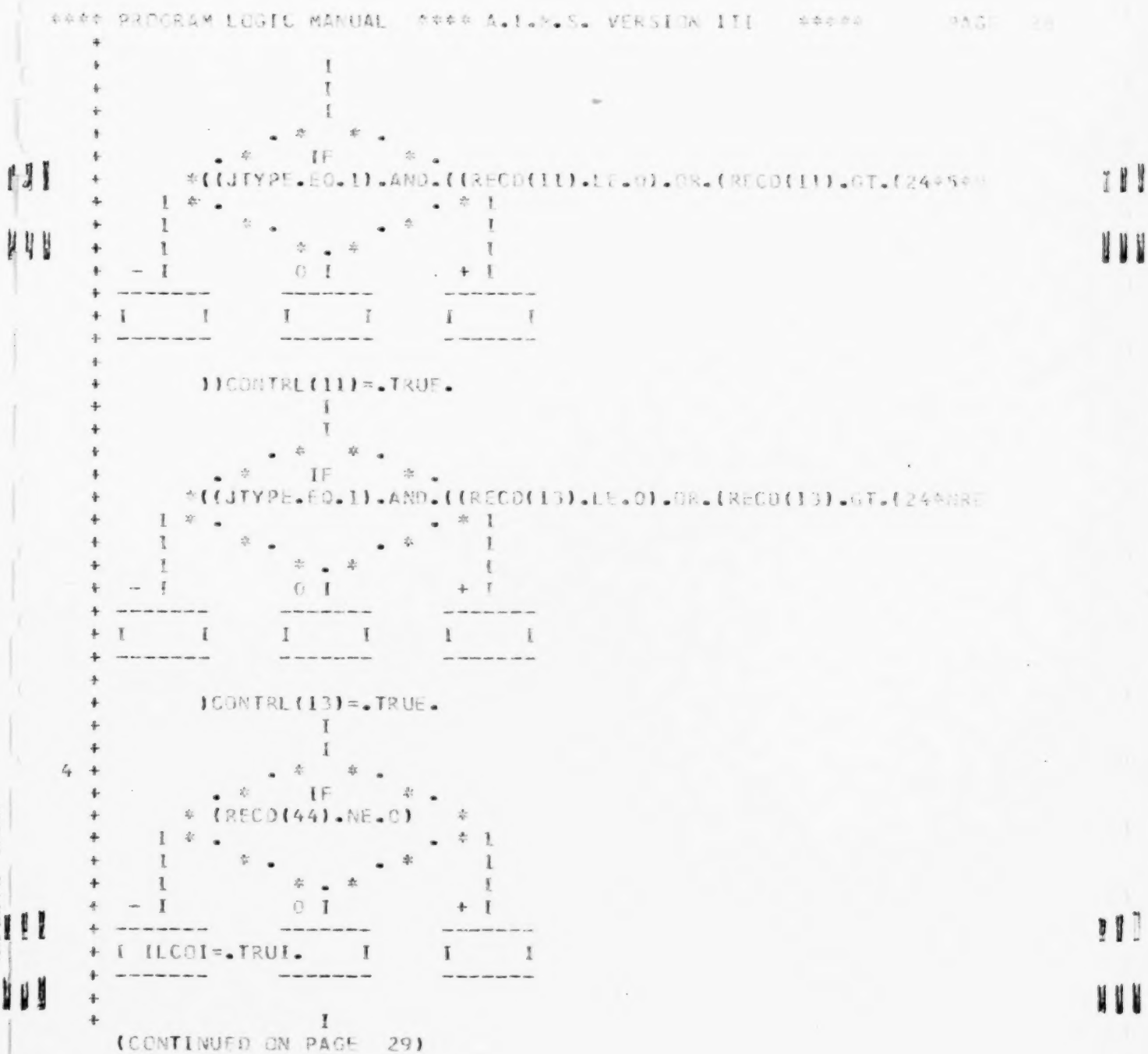

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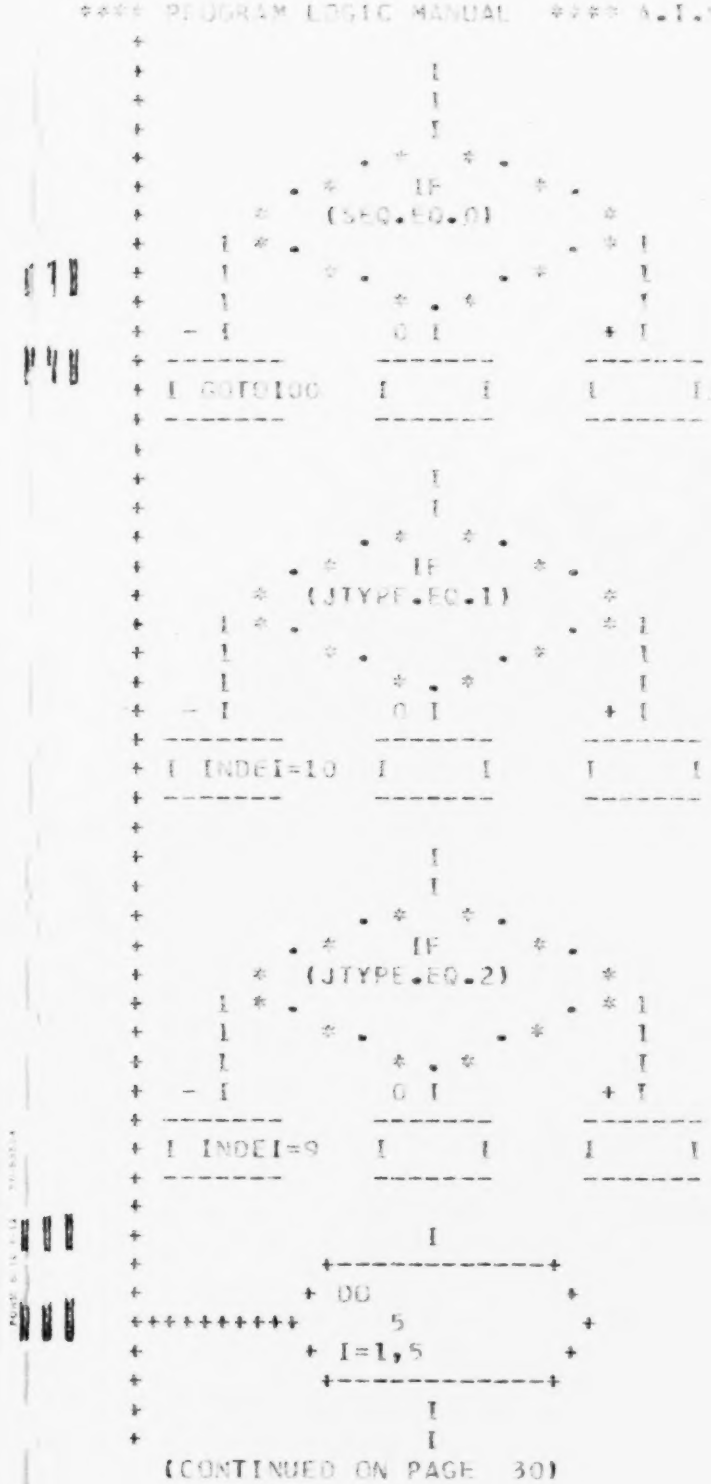

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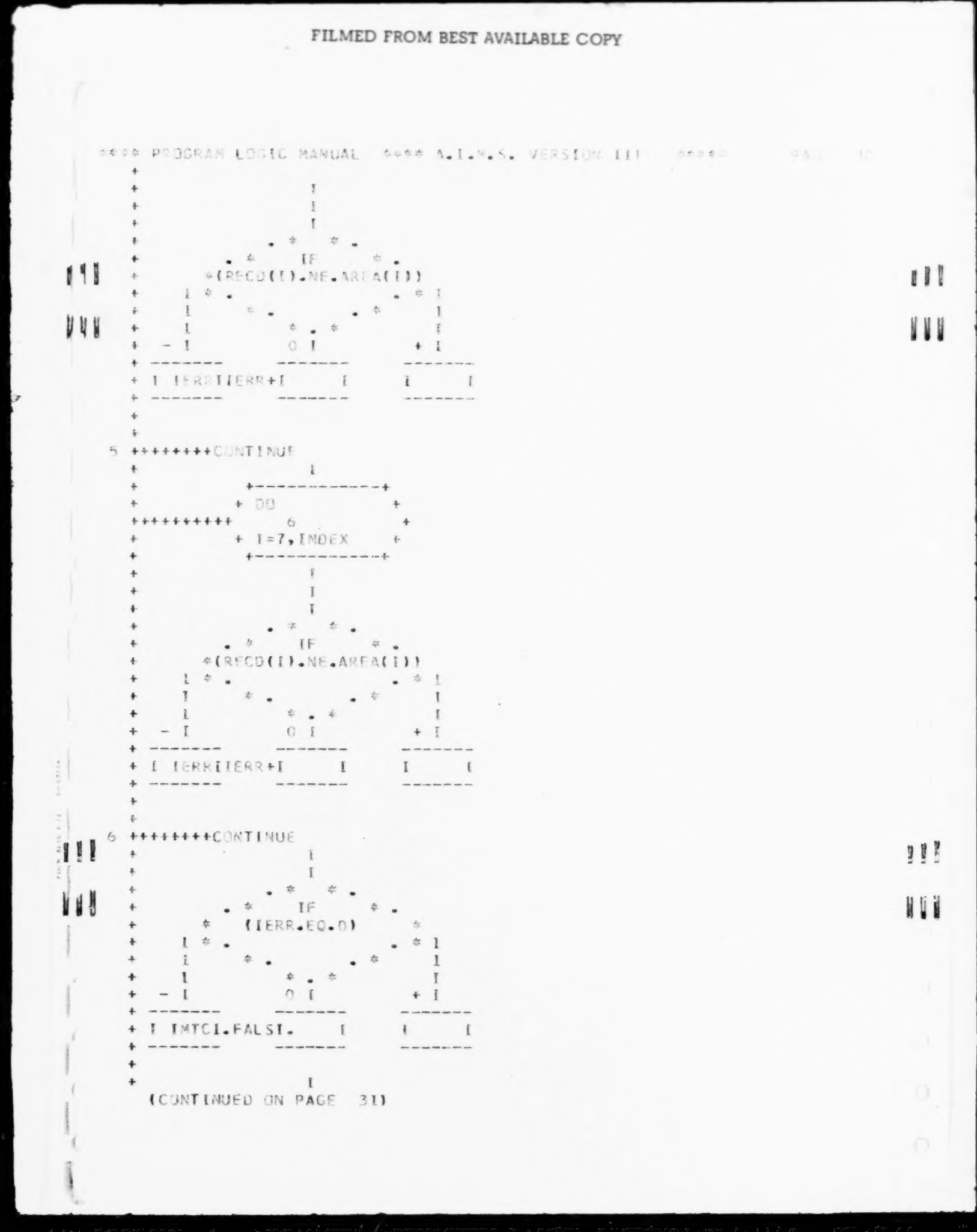

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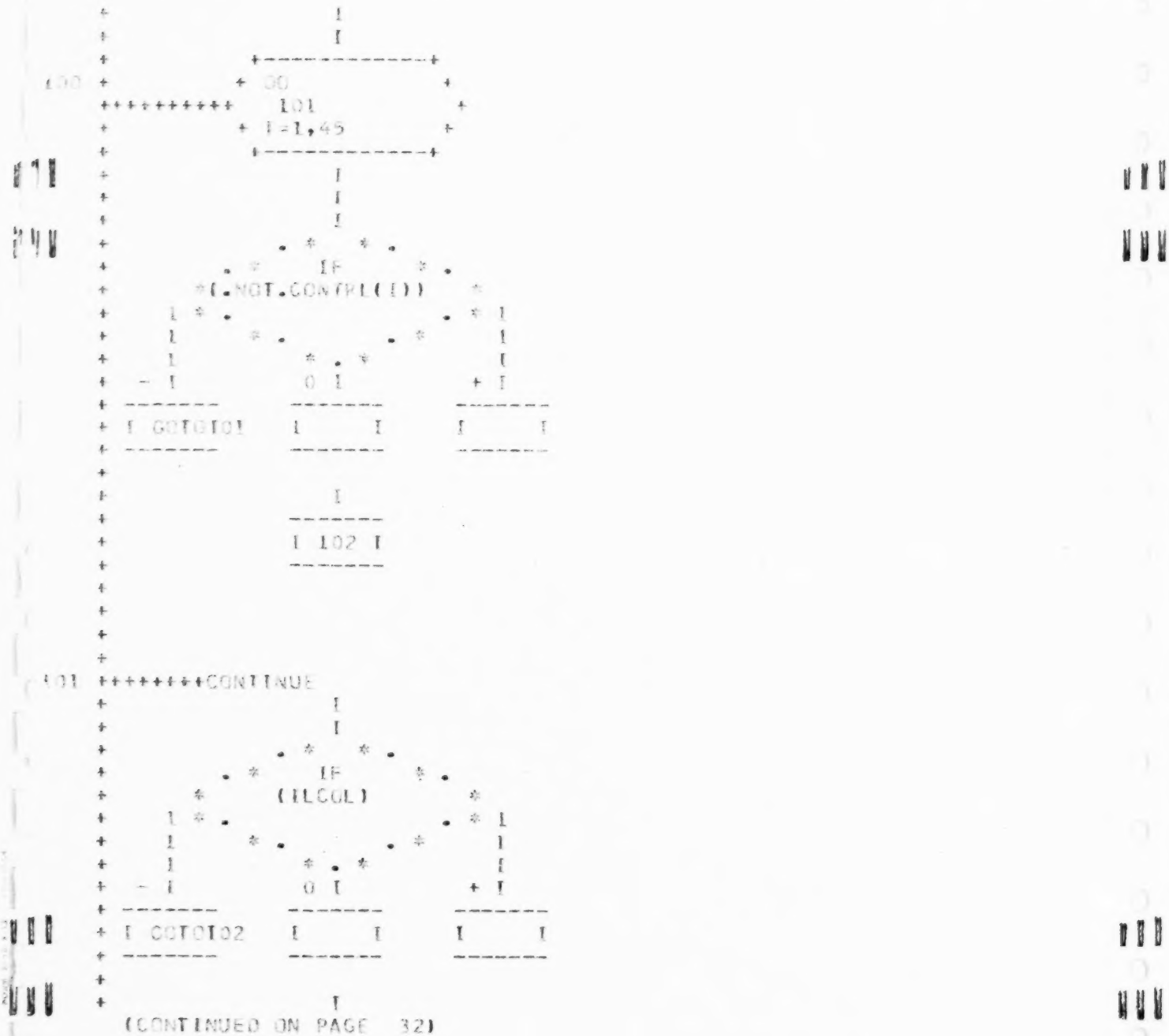

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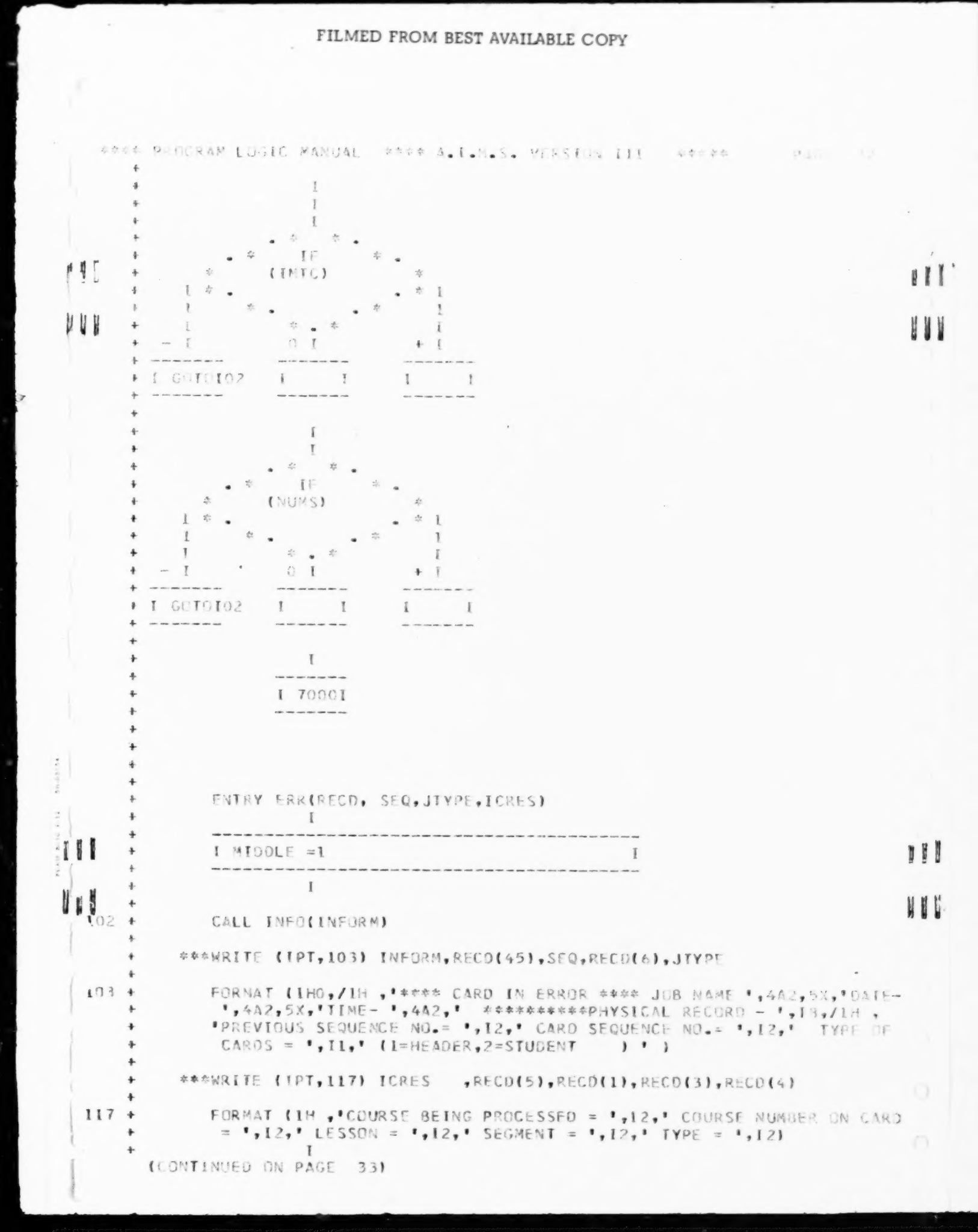


```
      ENTRY ERR(RECD, SEQ,JTYPE,ICRES)
      ----------------------------------------
      I MIDDLE =1                            I
      ----------------------------------------
      CALL INFO(INFORM)

***WRITE (IPT,103) INFORM,RECD(45),SEQ,RECD(6),JTYPE

103   FORMAT (1H0,/1H ,'**** CARD IN ERROR **** JOB NAME ',4A2,5X,'DATE-
       ',4A2,5X,'TIME- ',4A2,'  **********PHYSICAL RECORD - ',I3,/1H ,
      'PREVIOUS SEQUENCE NO.= ',I2,' CARD SEQUENCE NO.= ',I2,'  TYPE OF
       CARDS = ',I1,' (1=HEADER,2=STUDENT    ) ' )

***WRITE (IPT,117) ICRES   ,RECD(5),RECD(1),RECD(3),RECD(4)

117   FORMAT (1H ,'COURSE BEING PROCESSED = ',I2,' COURSE NUMBER ON CARD
       = ',I2,' LESSON = ',I2,' SEGMENT = ',I2,' TYPE = ',I2)
```

(CONTINUED ON PAGE 33)

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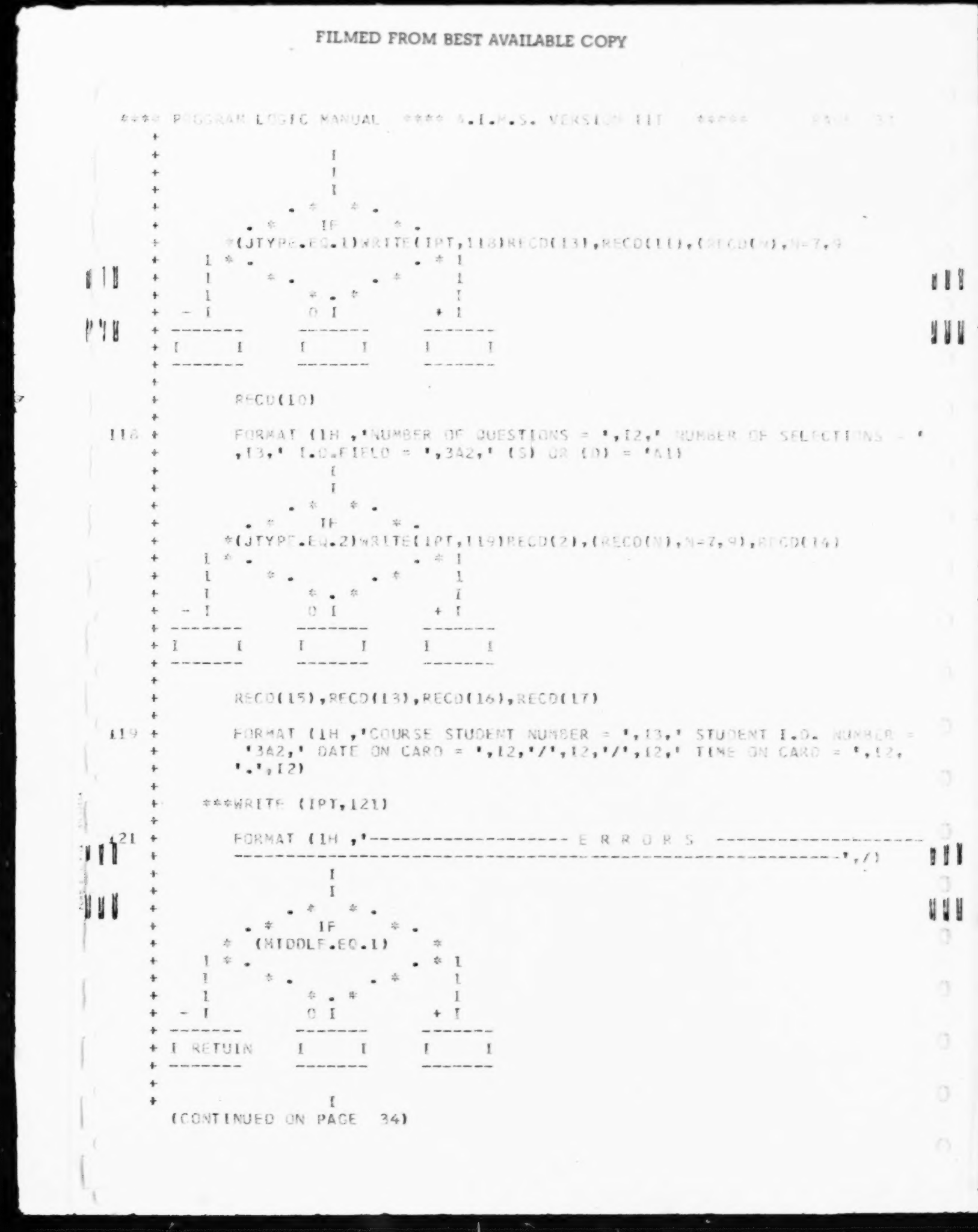

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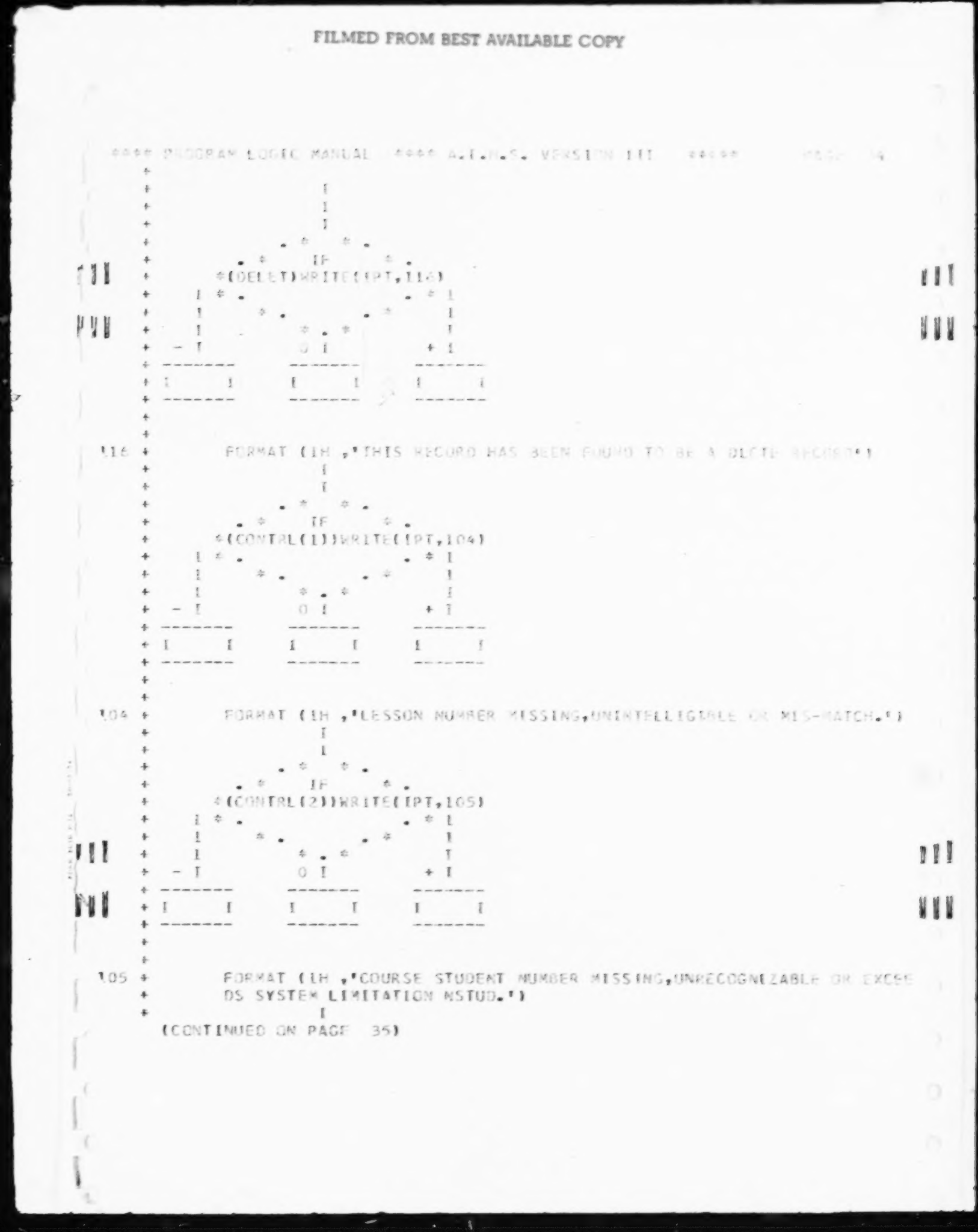

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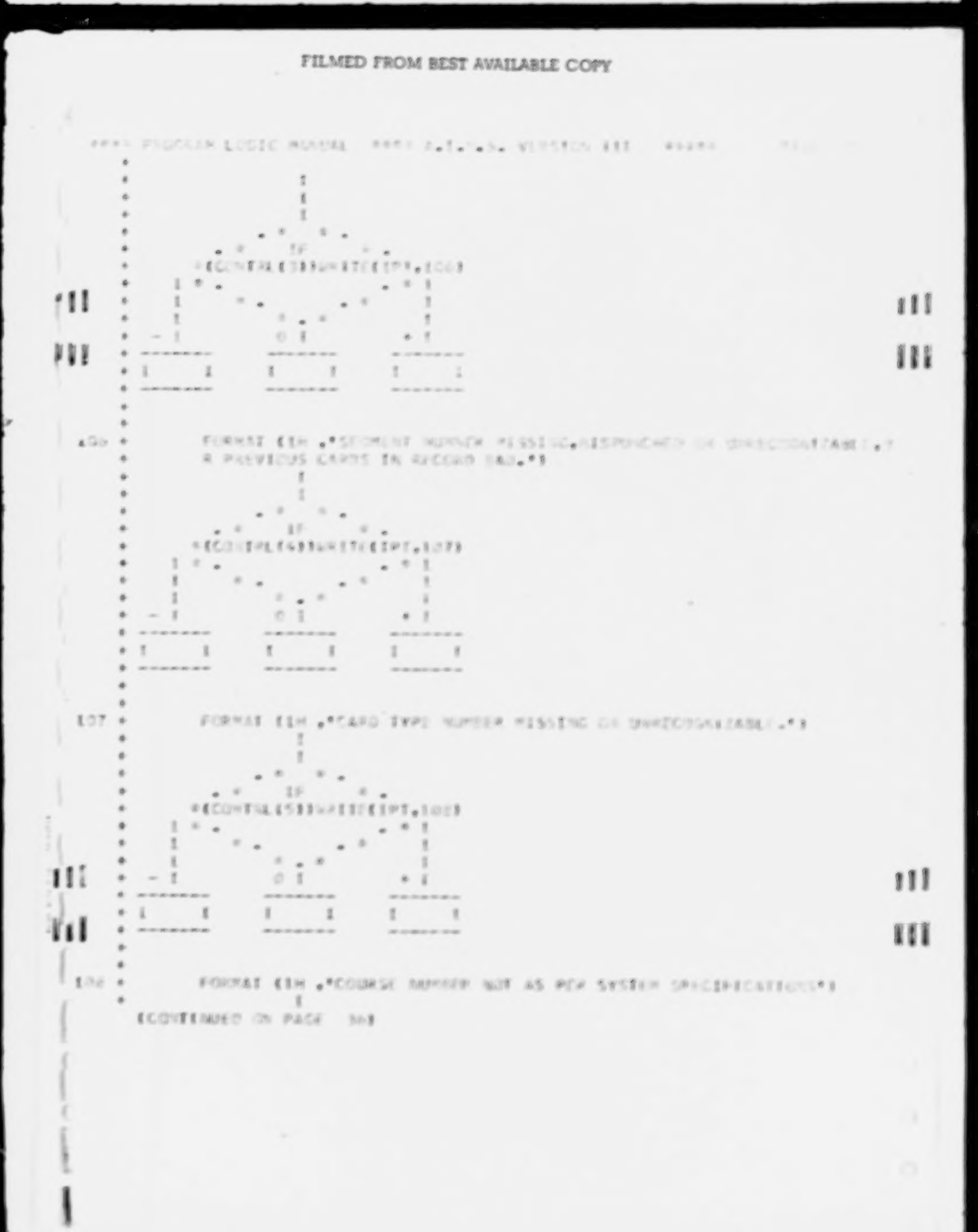

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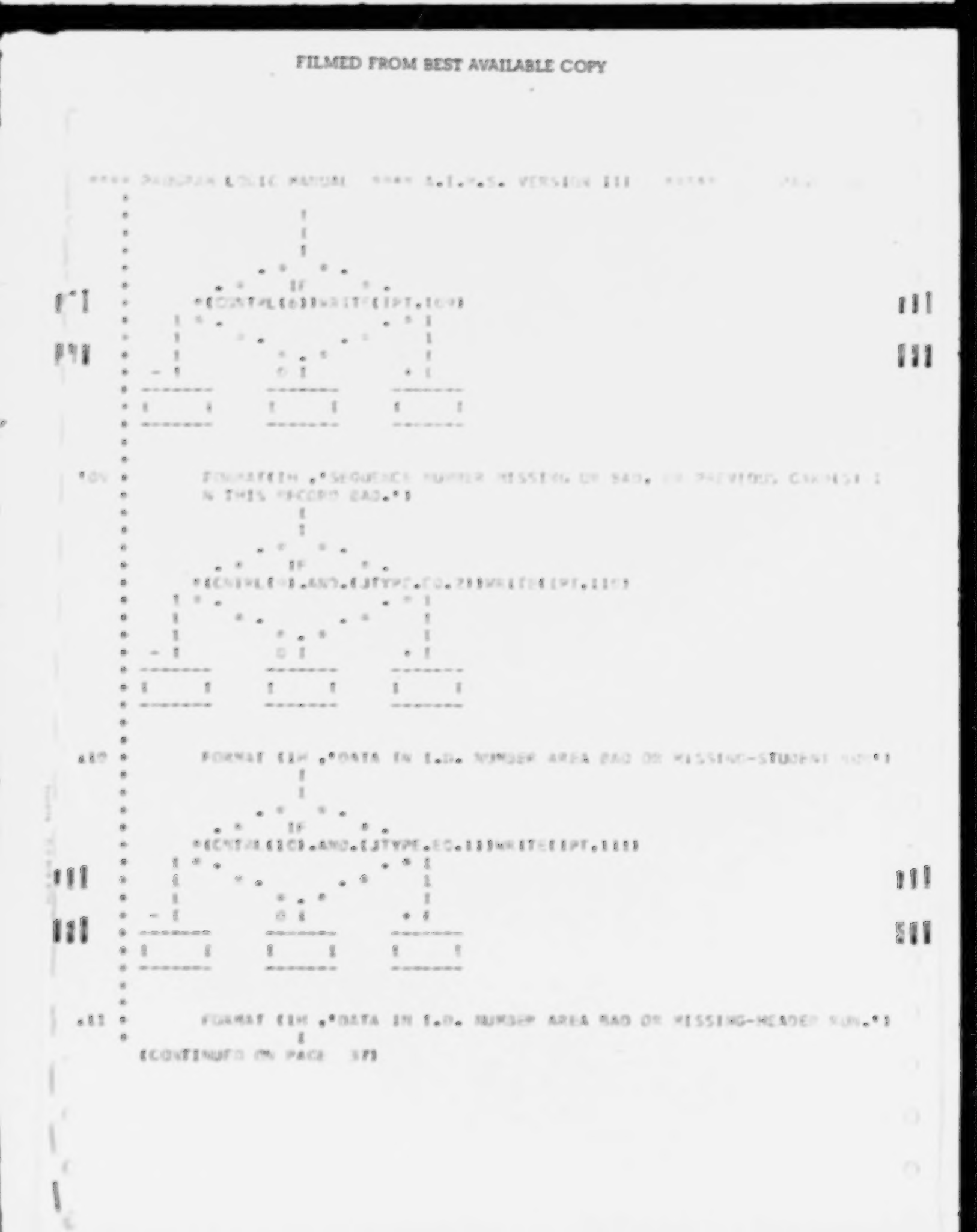

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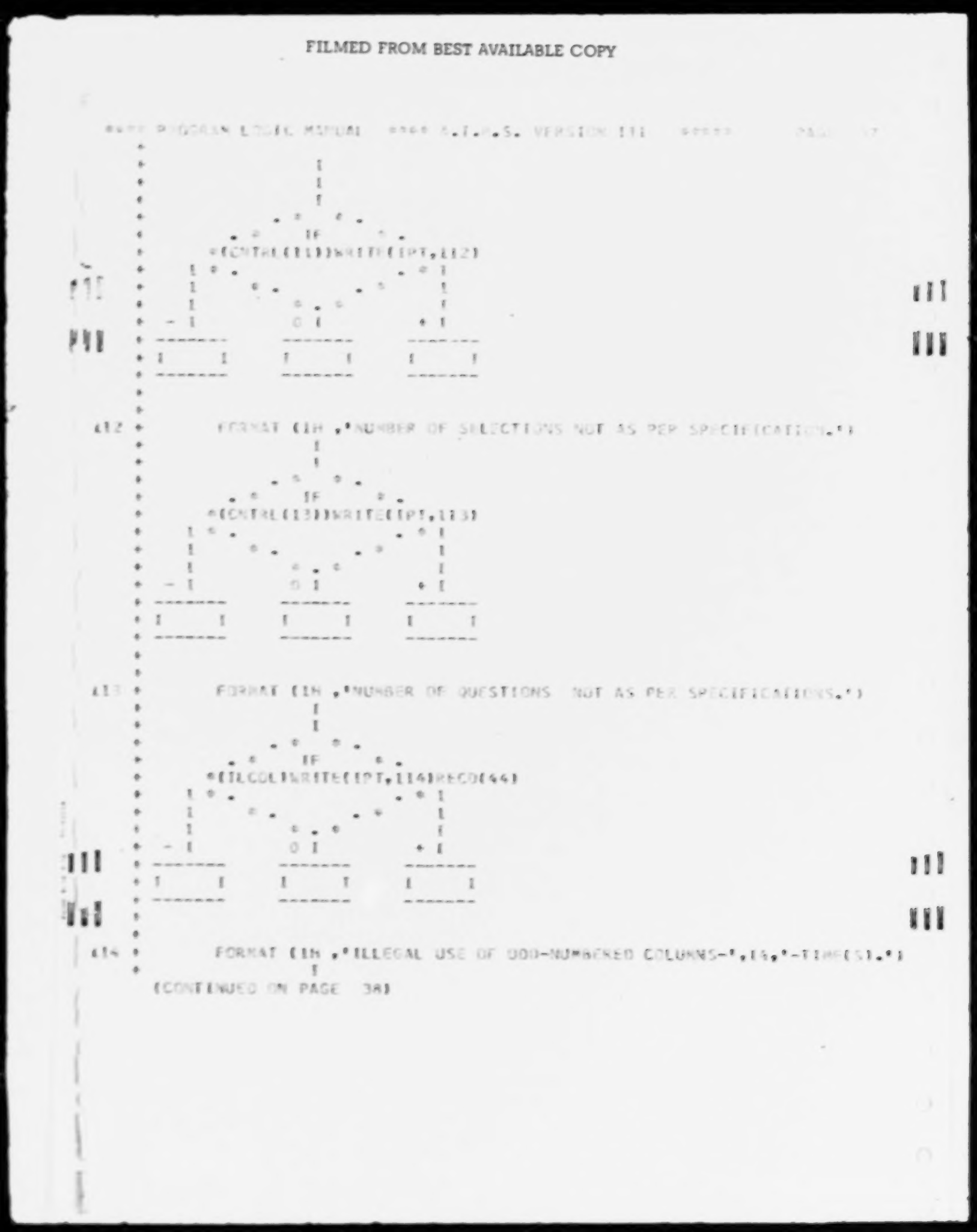

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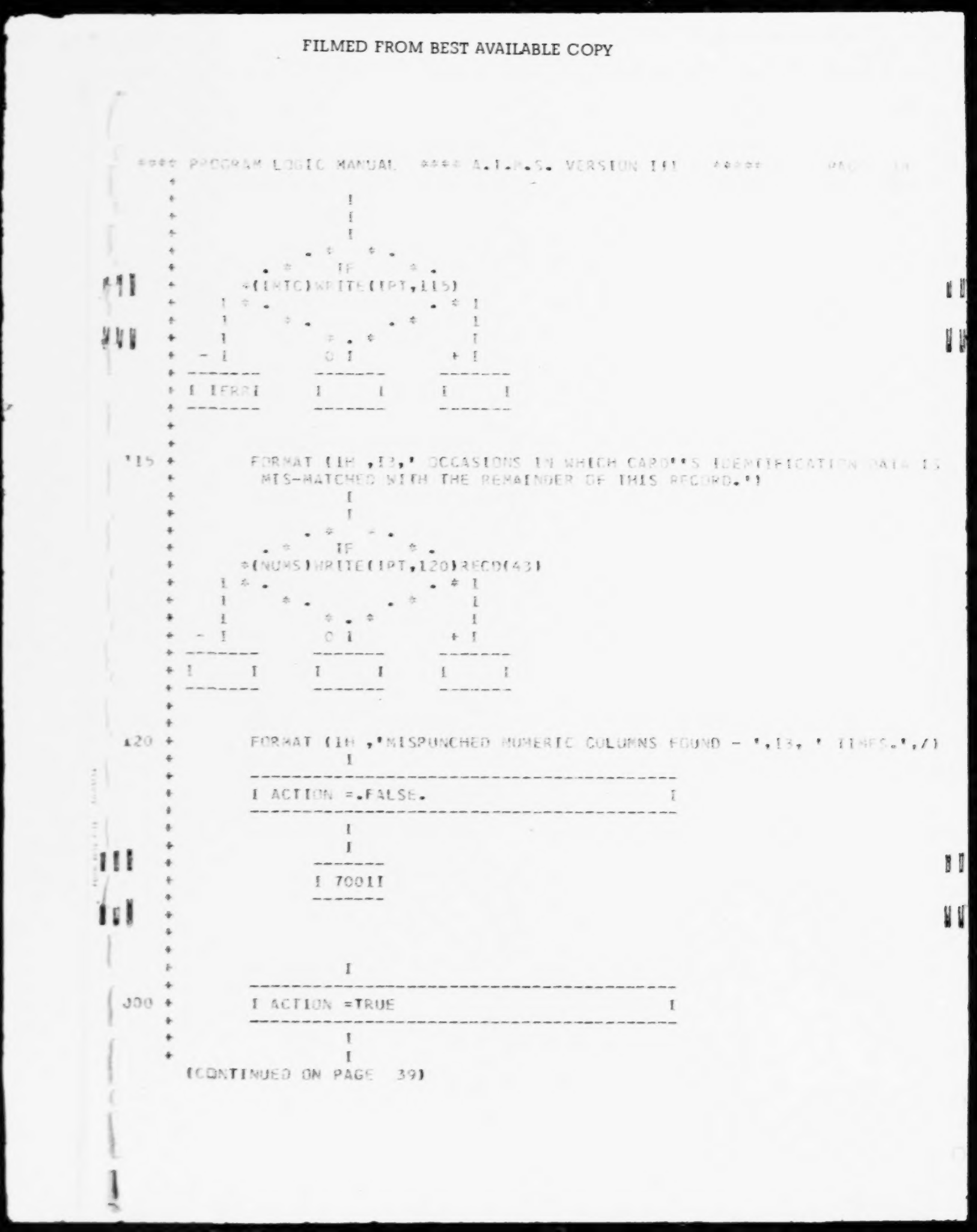

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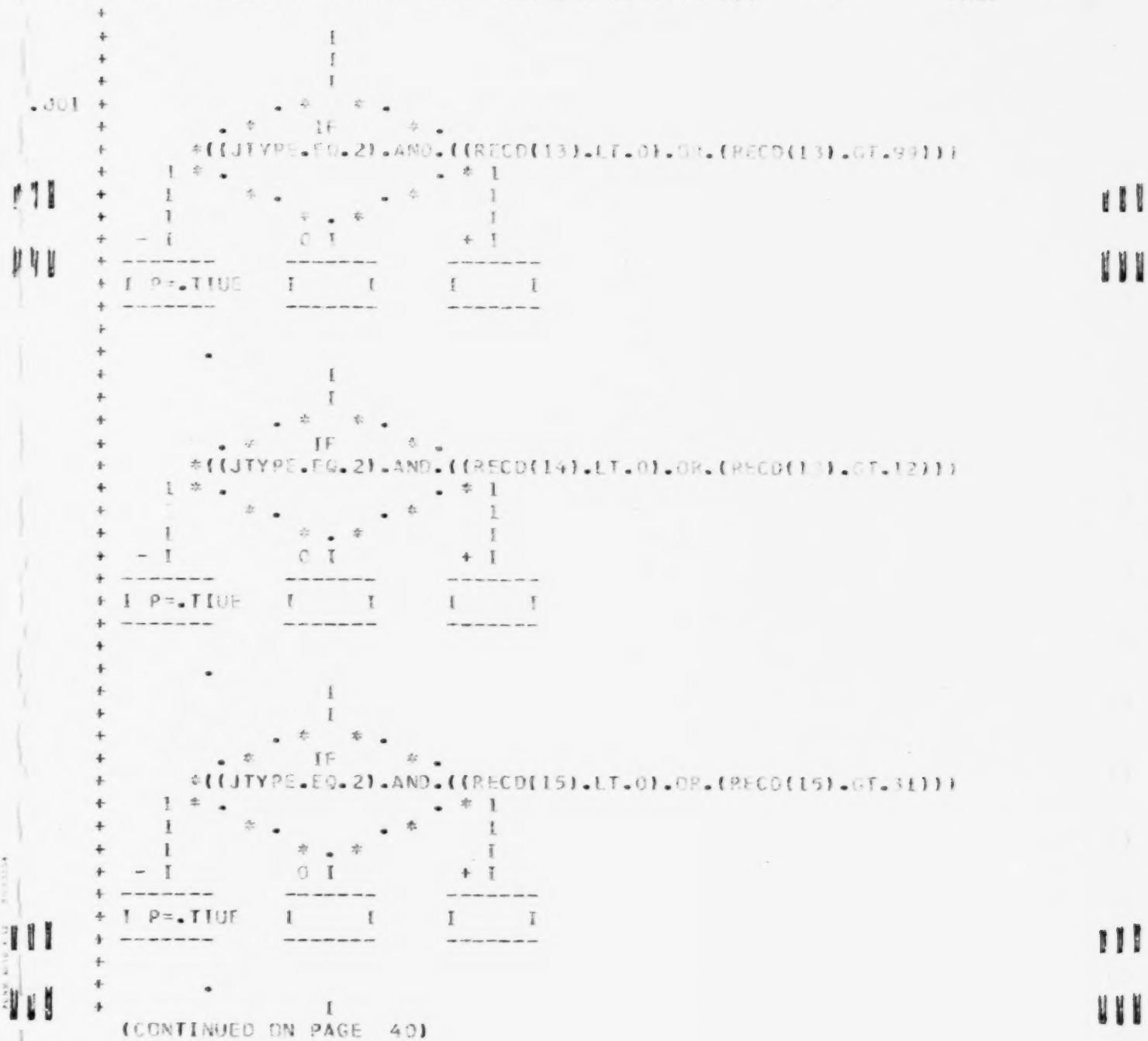

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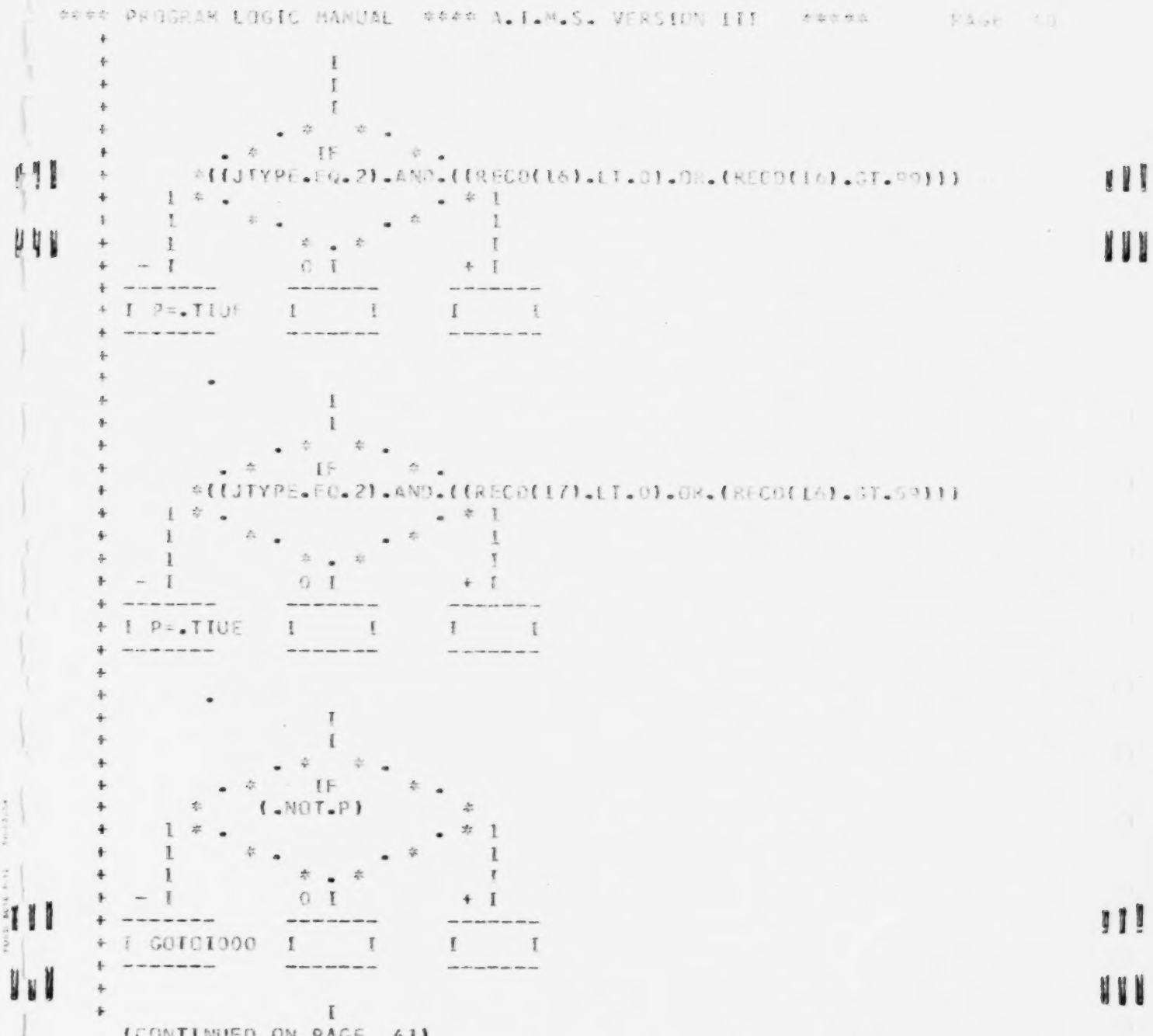

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```
                    I
                    I
                    I
                . *   * .
            . *     IF      * .
          *(ACTION)CALLINFO(INFORM)
        I * .                   . * I
        I     * .           . *     I
        I         * . *             I
      - I           0 I           + I
    -------       -------       -------
    I     I       I     I       I     I
    -------       -------       -------

                    I
                    I
                . *   * .
            . *     IF      * .
          *(ACTION)WRITE(IPT,103)INFORM,RECD(45),SEQ,RECD(6)
        I * .                   . * I
        I     * .           . *     I
        I         * . *             I
      - I           0 I           + I
    -------       -------       -------
    I     I       I JTYPI       I     I
    -------       -------       -------

                    I
                    I
                . *   * .
            . *     IF      * .
          *(P)WRITE(IPT,7099) *
        I * .                   . * I
        I     * .           . *     I
        I         * . *             I
      - I           0 I           + I
    -------       -------       -------
    I     I       I     I       I     I
    -------       -------       -------

 7099       FORMAT (1H ,'ERRORS IN YEAR,MONTH,DAY,HOURS OR MINUTES COLUMNS - E
           RRORS IGNORED.')
                    I
```

(CONTINUED ON PAGE 42)

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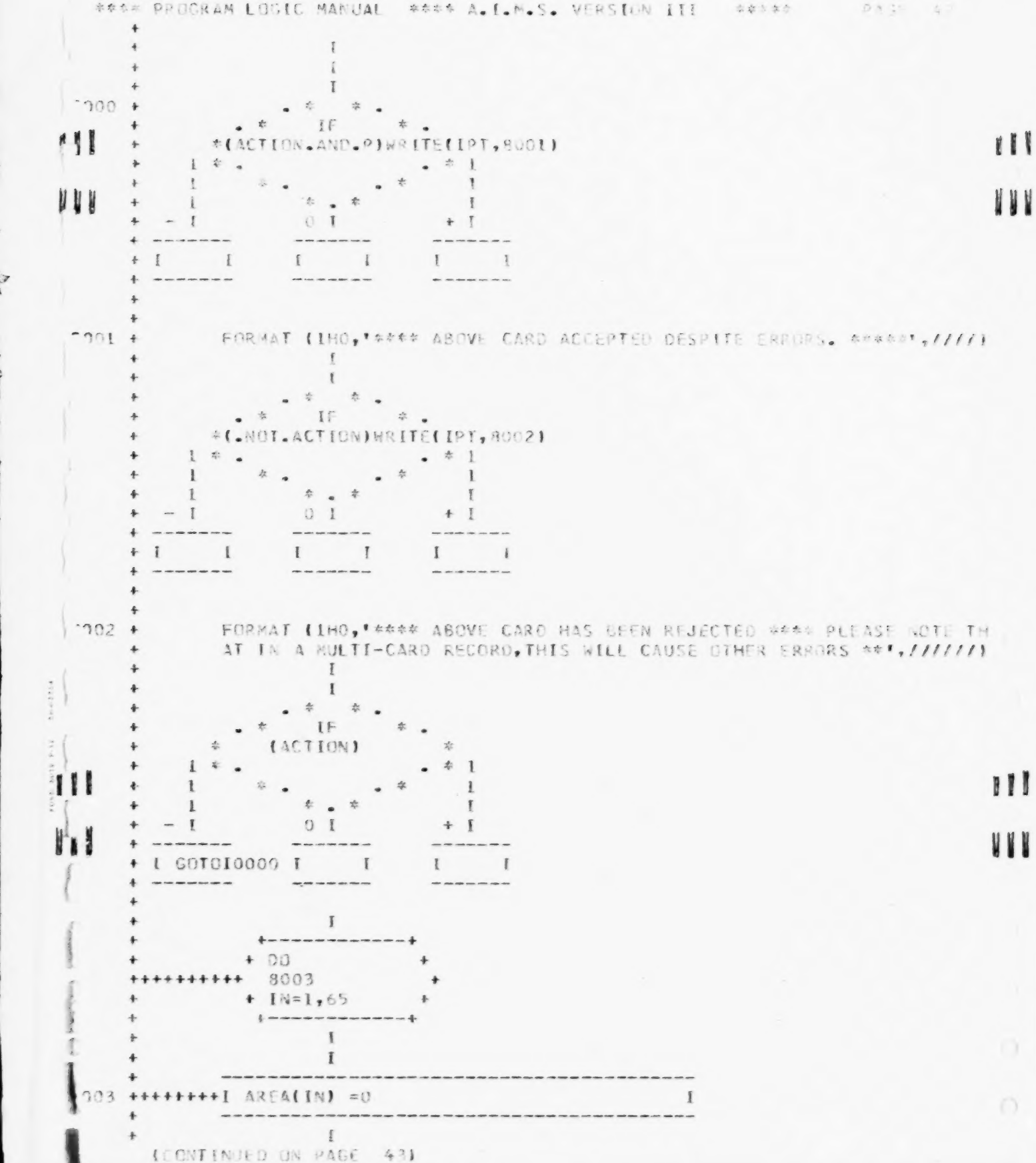

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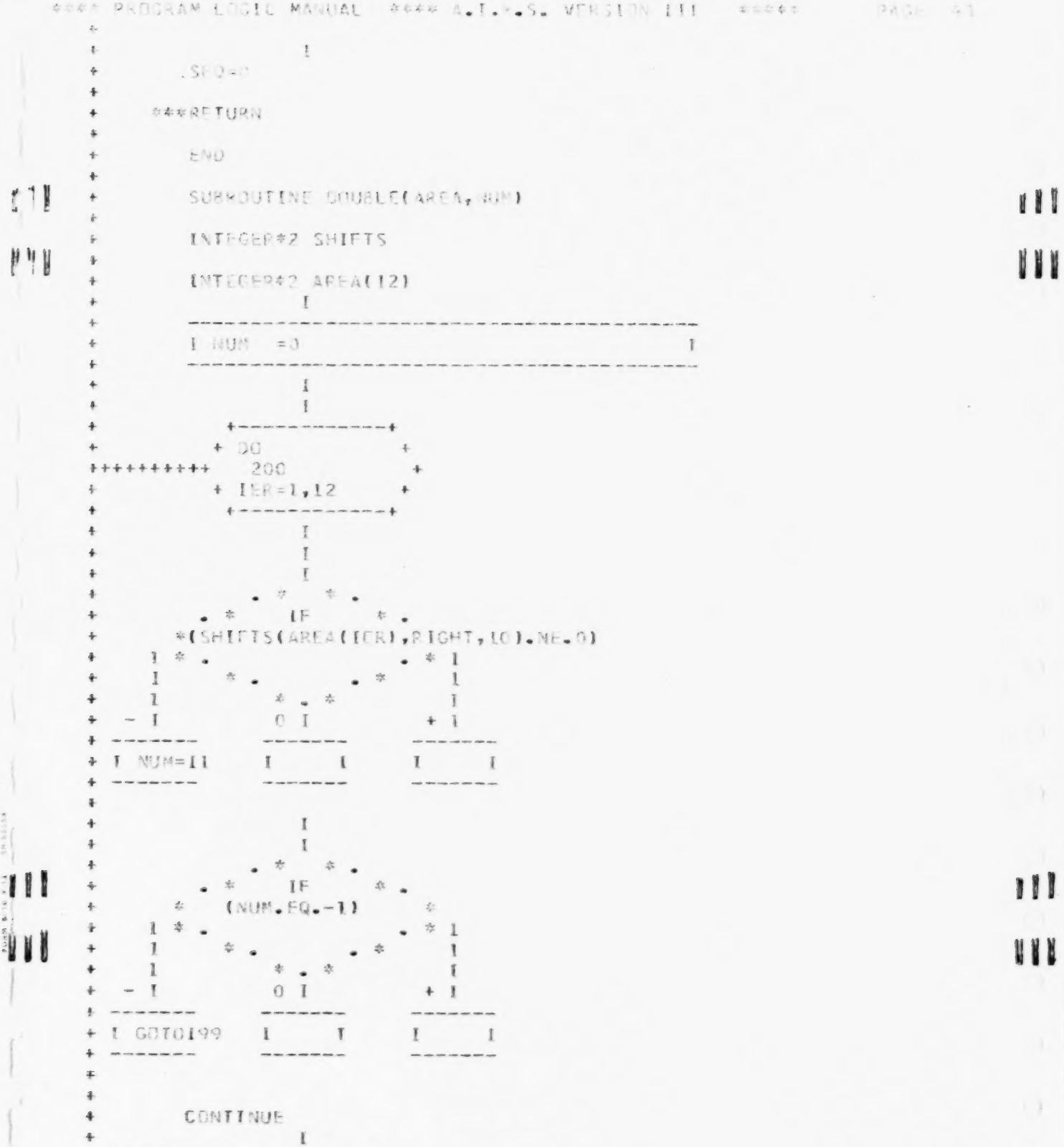

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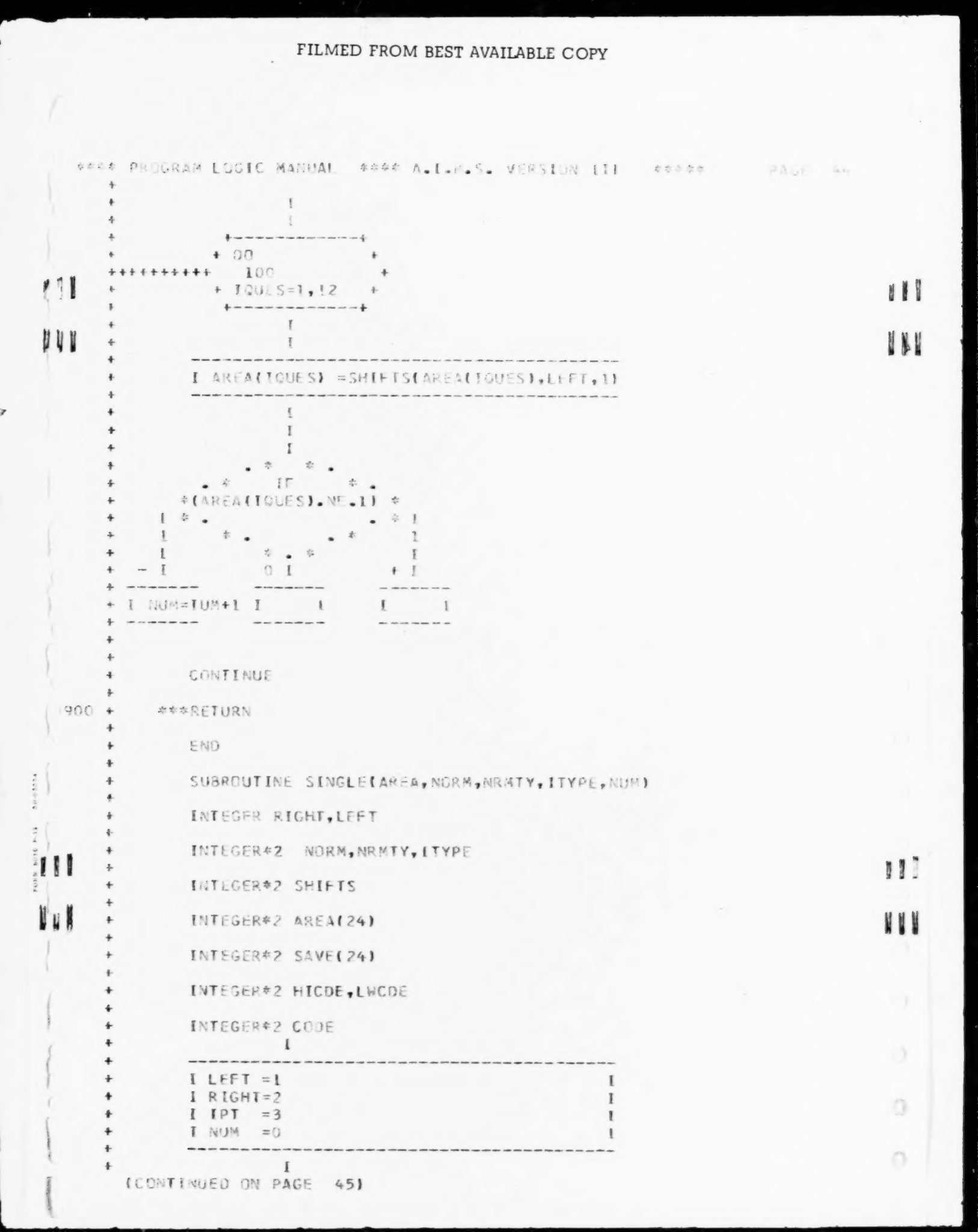


```
      CONTINUE

900   ***RETURN

      END

      SUBROUTINE SINGLE(AREA,NORM,NRMTY,ITYPE,NUM)

      INTEGER RIGHT,LEFT

      INTEGER*2  NORM,NRMTY,ITYPE

      INTEGER*2 SHIFTS

      INTEGER*2 AREA(24)

      INTEGER*2 SAVE(24)

      INTEGER*2 HICDE,LWCDE

      INTEGER*2 CODE
```

LEFT =1
RIGHT=2
IPT =3
NUM =0

(CONTINUED ON PAGE 45)

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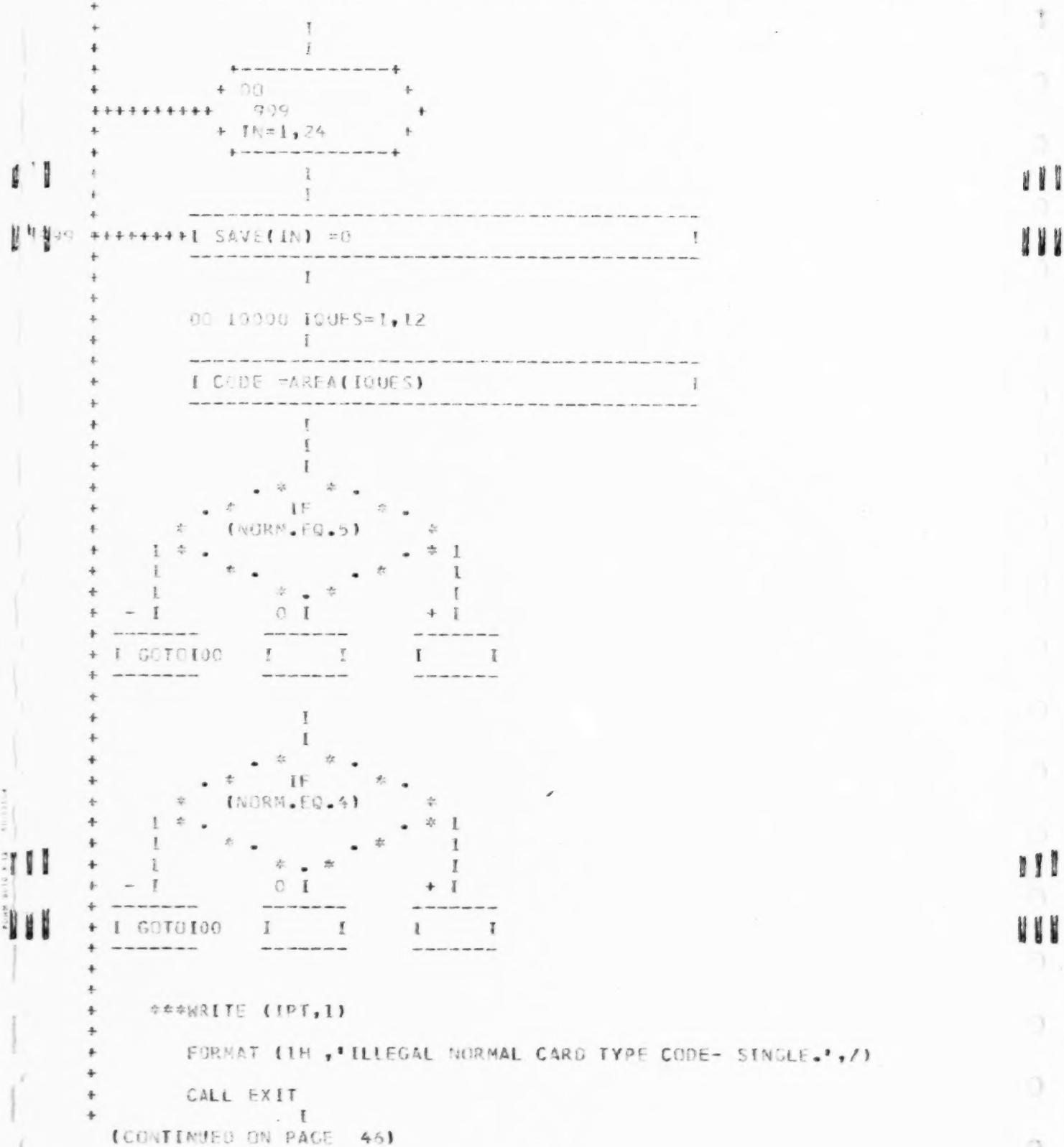

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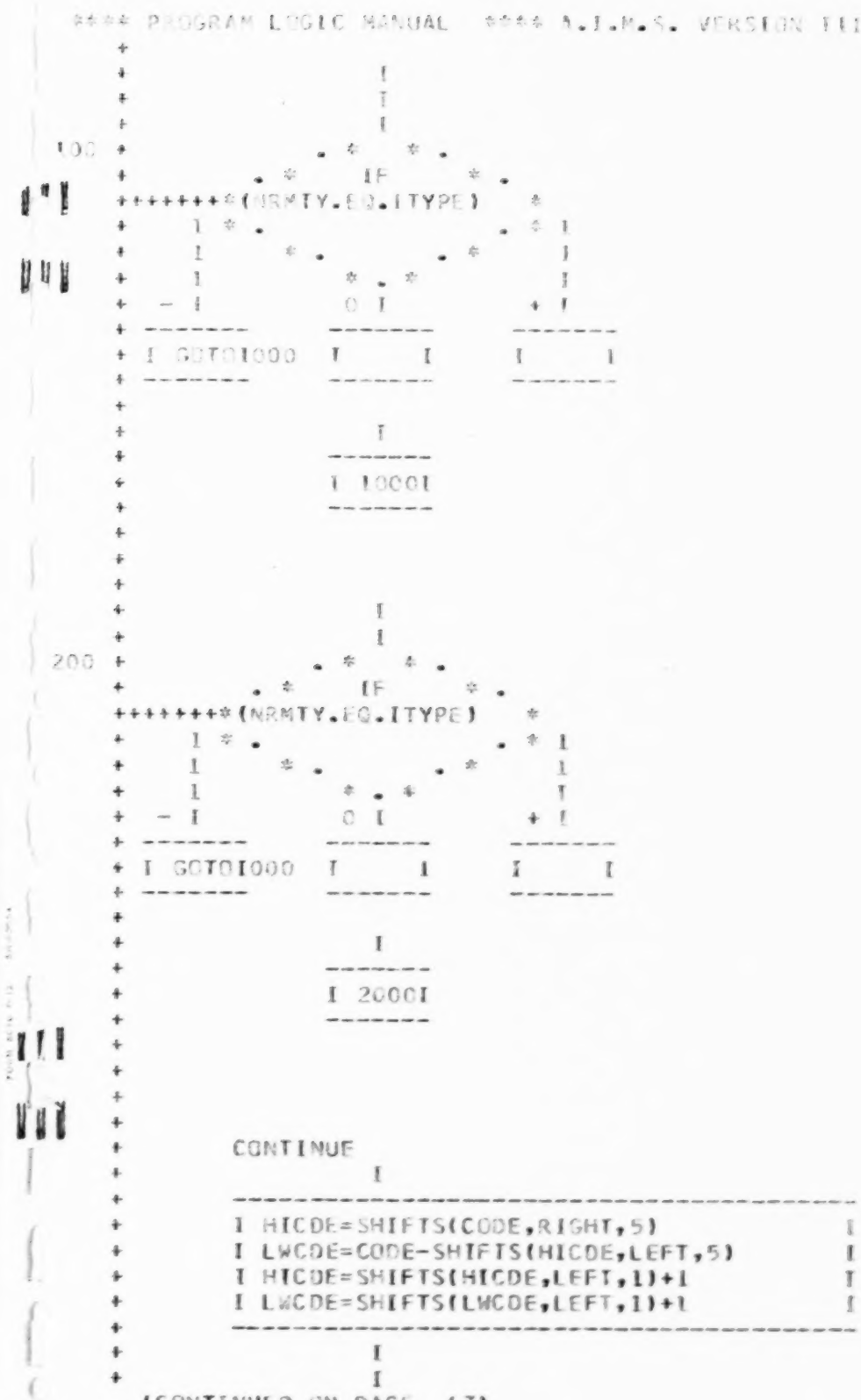

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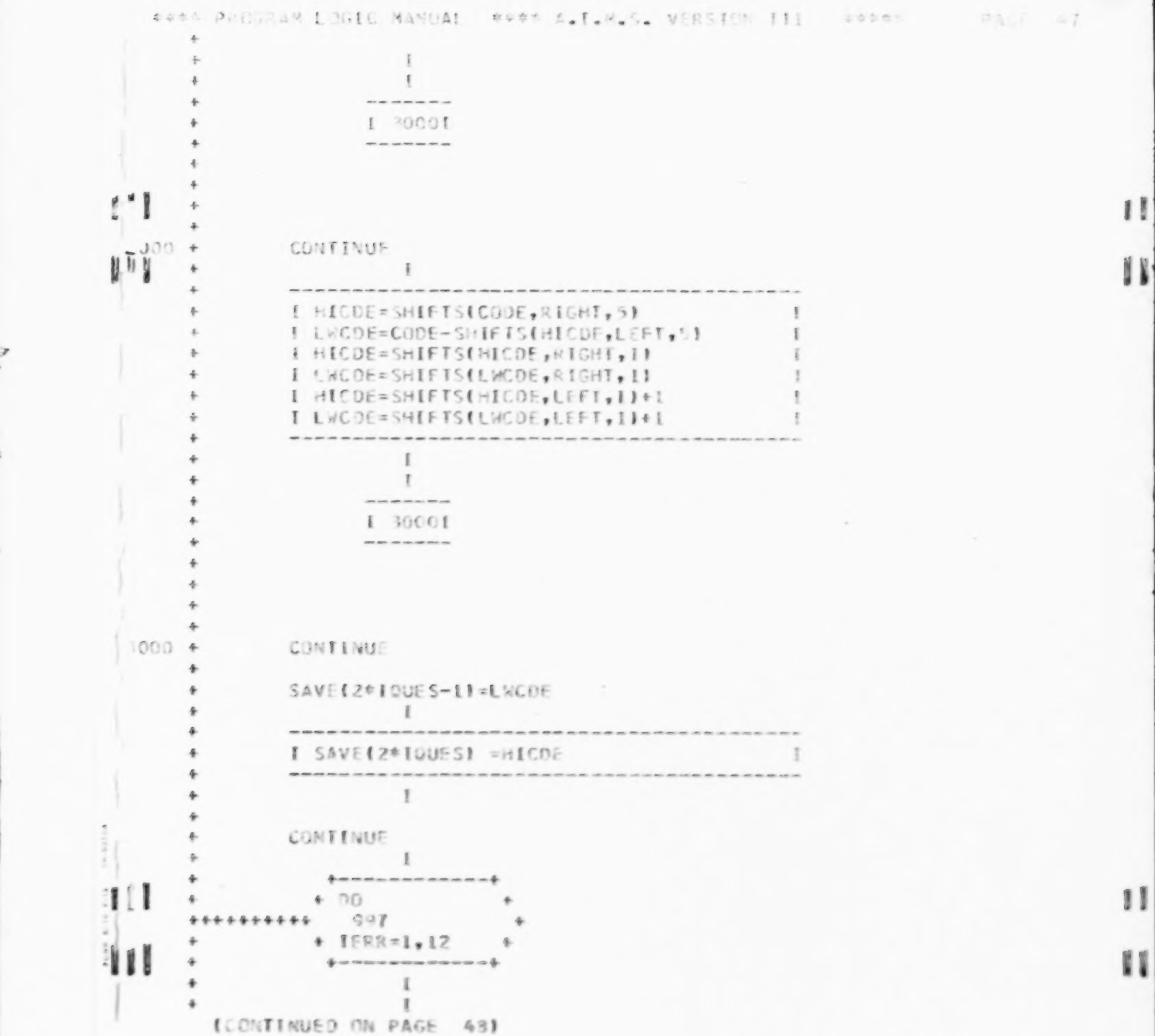

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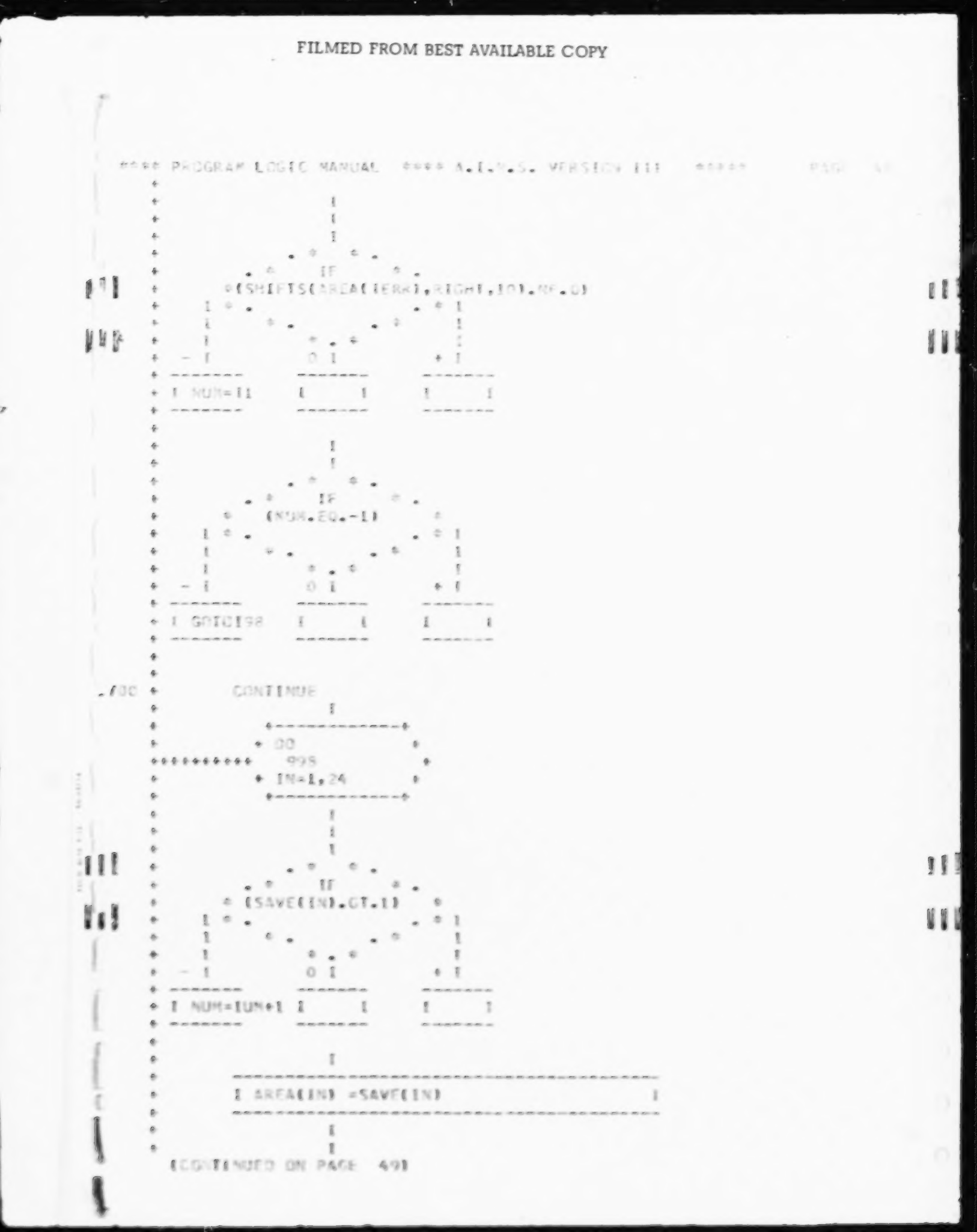

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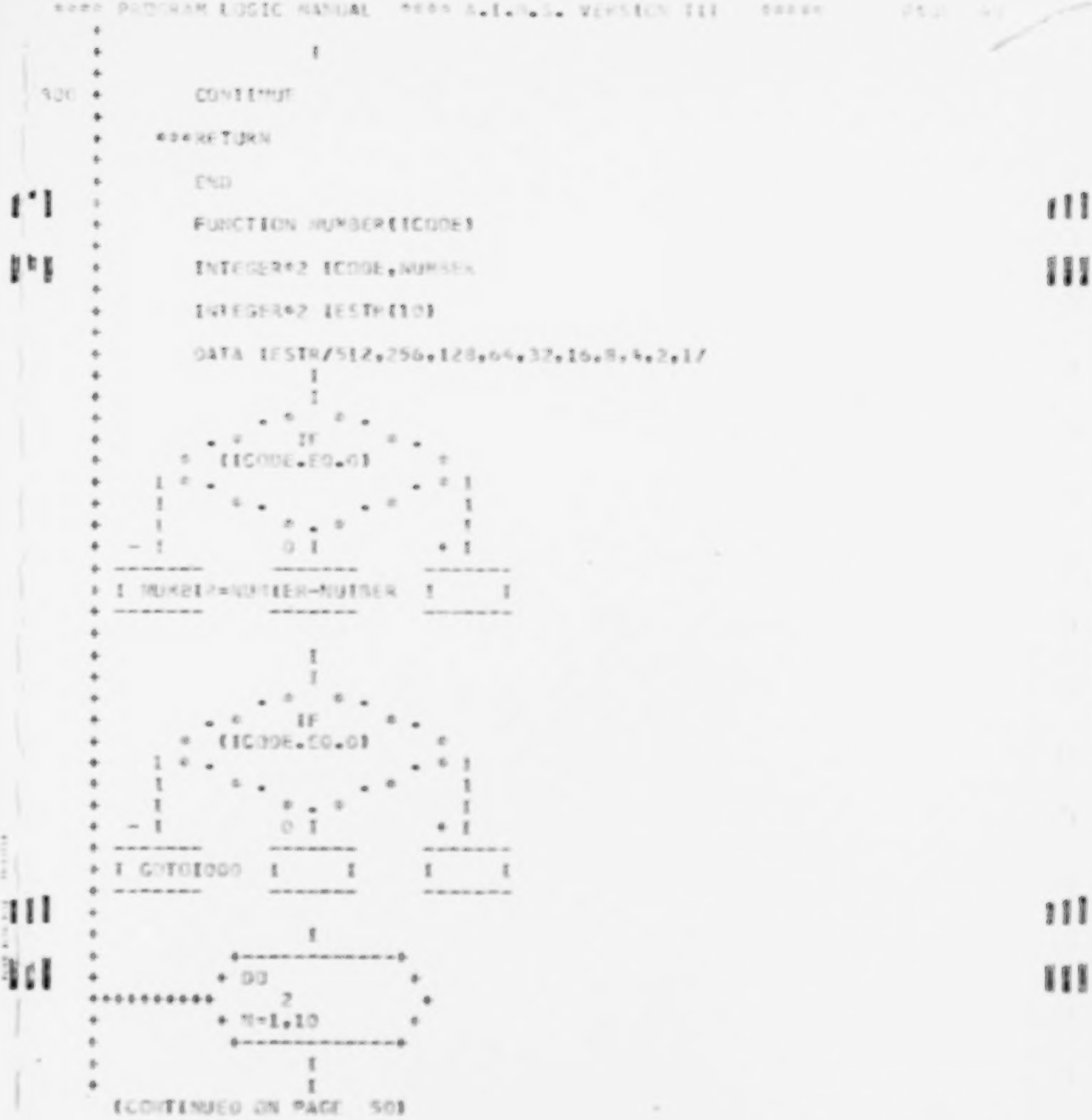

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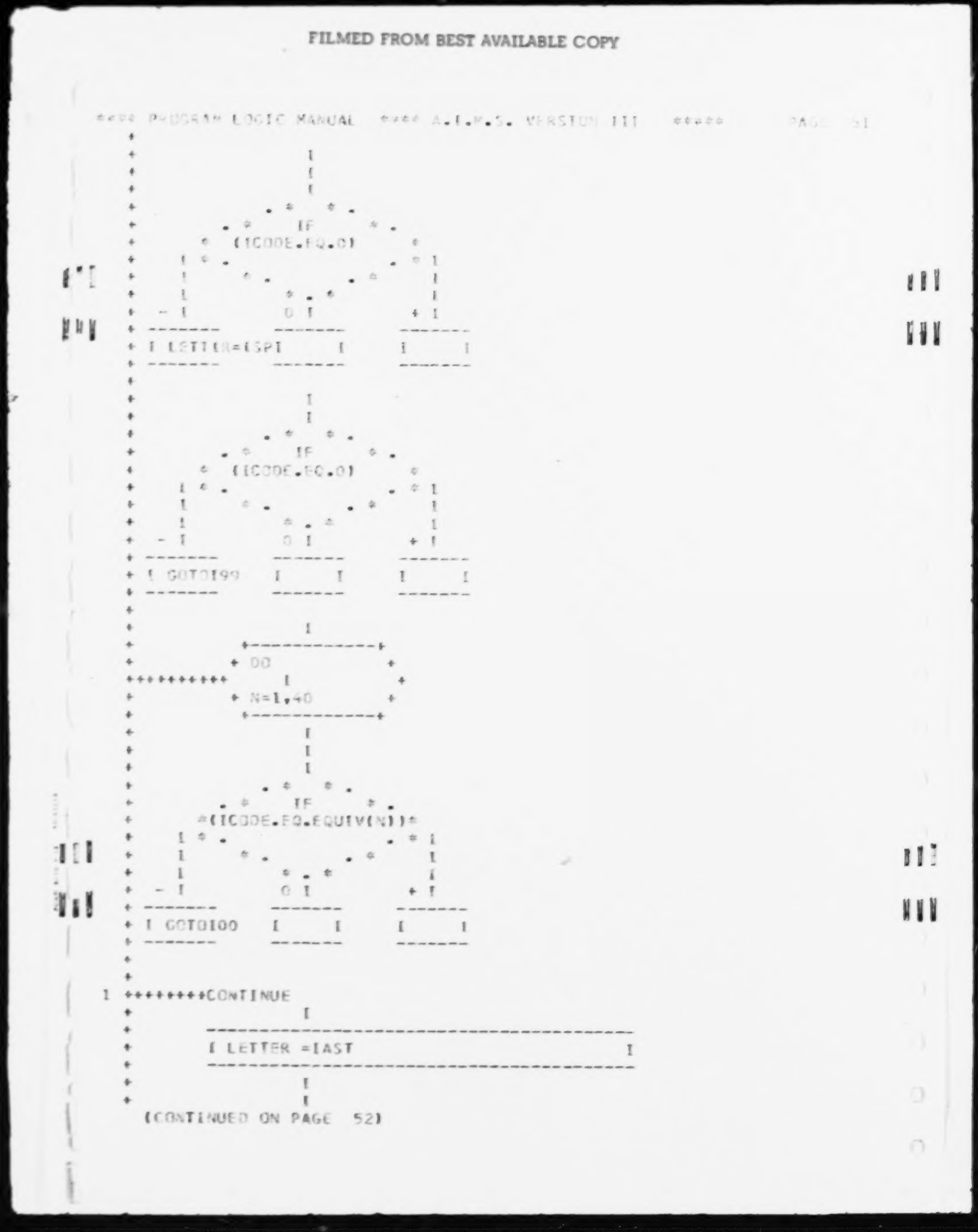

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```
      +
      +                  I
      +                  I
      +                -------
      +                I 999 I
      +                -------
      +
      +
      +                  I
      +         ----------------------------------------
  GO  +         I LETTER =EBCDIC(N)                    I
      +         ----------------------------------------
      +                  I
      +
  999 +     ***RETURN
      +
      +         END
```

```
 ACFBACK FOLLOWS-   ROUTINE     ISN    REG. 14    REG. 15    REG.  0    REG.  1
                    IBCOM              9200302C   00005E58   00000001   00000000
                    MAINPG
 ENTRY POINT=  0000IFE8
```

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SECTION V

OUTPUT REPORT GENERATOR

MONITOR

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**** PROGRAM LOGIC MANUAL **** A.I.M.S. VERSION III *****

```
      DEFINE FILE 5(1500,33,U,I5)
      DEFINE FILE 6(300,33,U,I6)
      DEFINE FILE 7(200,100,U,I7)
      DEFINE FILE 8(4000,35,U,I8)
      DEFINE FILE 9(250,33,U,I9)
      DEFINE FILE 10(8040,33,U,I10)
      DEFINE FILE 11(400,23,U,I11)
      DEFINE FILE 12(100,25,U,I12)
      INTEGER*2 IRP(16)
```

```
+-----------------+
| IRESPT =4       |
+-----------------+
        |
        |
   +----------+
   | DO       |
   | 100      |
   | KIRP=1,16|
   +----------+
        |
        |
    ***REWIND IRESPT
        |
   +----------+
   | N = IRP(KIRP)|
   +----------+
        |
        |
    GO TO (70,71,72,73,74,75,76,77,78,79,80,81,82,83,84,85),N
        |
   +-------+
   | 100   |
   +-------+
        |
        |
        |
        |
        |
 70     |
        |
        |
    CONTINUE
        |
        |
    CALL OPSYS('LOAD','REPT0001')
        |
```

(CONTINUED ON PAGE 2)

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```
                    I
          CALL RSEP(IRP(KIRP))
          CALL REP1
                    I
                 -------
                 I 100 I
                 -------


    71    CONTINUE
          CALL RSEP(IRP(KIRP))
                    I
                 -------
                 I 100 I
                 -------


    72    CONTINUE
          CALL RSEP(IRP(KIRP))
                    I
                 -------
                 I 100 I
                 -------


    73    CONTINUE
          CALL OPSYS('LOAD','REPT0004')
          CALL RSEP(IRP(KIRP))
          CALL REP04
                    I
                 -------
                 I 100 I
                 -------


    74    CONTINUE
          CALL OPSYS('LOAD','REPT0004')
          CALL RSEP(IRP(KIRP))
          CALL REP05
                    I
```

(CONTINUED ON PAGE 31)

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```
                    |
                    |
                 -------
                 | 100 |
                 -------
```

```
      CONTINUE
      CALL OPSYS('LOAD','REPF0004')
      CALL RSEP(IRP(KIRP))
      CALL REP06
                 |
              -------
              | 100 |
              -------
```

```
      CONTINUE
      CALL OPSYS('LOAD','REPF0007')
      CALL RSEP(IRP(KIRP))
      CALL REP07
                 |
              -------
              | 100 |
              -------
```

```
      CONTINUE
      CALL RSEP(IRP(KIRP))
                 |
              -------
              | 100 |
              -------
```

```
      CONTINUE
      CALL RSEP(IRP(KIRP))
                 |
```

(CONTINUED ON PAGE 4)

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```
                    I
                    V
                 --------
                 I LOC I
                 --------

        CONTINUE

        CALL RSEP(IRP(KIRP))
                    I
                 --------
                 I LOC I
                 --------


        CONTINUE

        CALL OPSYS('LOAD','REPTUC12')

        CALL RSEP(IRP(KIRP))

        CALL REPIT
                    I
                 --------
                 I LOC I
                 --------


        CONTINUE

        CALL OPSYS('LOAD','REPTUC12')

        CALL RSEP(IRP(KIRP))

        CALL REP12
                    I
                 --------
                 I LOC I
                 --------


        CONTINUE

        CALL RSEP(IRP(KIRP))
                    I
```

(CONTINUED ON PAGE 5)

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```
                    I
                    I
                 -------
                 I 100 I
                 -------

C
      CONTINUE
      CALL RSEP(IRP(KIRP))
      CALL OPSYS('LOAD','REPTOOL3')
      CALL REPL4
                 I
              -------
              I 100 I
              -------

C
C
C
C
      CONTINUE
      CALL OPSYS('LOAD','REPTOOL5')
      CALL RSEP(IRP(KIRP))
      CALL REPL5
                 I
              -------
              I 100 I
              -------

C
C
C
C
      CONTINUE
      CALL OPSYS('LOAD','REPTOOL5')
      CALL RSEP(IRP(KIRP))
      CALL REPL6
C
100 ++++++++CONTINUE
 65       ***WRITE(3,96)
 96       FORMAT(/,1X,'END OF ALMS OUTPUT GENERATOR')
 97       FORMAT(10X,16(2)
          CALL EXIT
                 I
    (CONTINUED ON PAGE    6)
```

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SECTION VI

OUTPUT REPORT GENERATOR

SUBPROGRAMS

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**** PROGRAM LOGIC MANUAL **** A.I.M.S. VERSION III *****

```
      SUBROUTINE HEADPG(IRPT,IPGE)

      INTEGER*2 INFORM(12),DATE(4),TIME(4)

      INTEGER*2 ORP(7),IRP
      INTEGER O(10)/'****',' AIM','S OU','TPUT',' GEN','ERAT','OR. ',
     'REPO','RT #','0.  '/

      EQUIVALENCE (INFORM(5),DATE(1)),(INFORM(9),TIME(1))

      CALL INFO(INFORM)

     ***WRITE (3,10000) IRPT,TIME,DATE,IPGE

      FORMAT(1H1,/1H ,'     **** A.I.M.S. REPORT GENERATOR ****    REPORT
       NUMBER ',I2,' ****     TIME  - ',4A2,'     DATE  - ',4A2,'      PAGE
       NUMBER ',I4,//)
                 I
      ---------------------------------------------
      I IPGE =IPGE+1                               I
      ---------------------------------------------
                 I

     ***RETURN

      ENTRY RSFP(IRP)
                 I
      ---------------------------------------------
      I IOIPT=3                                    I
      ---------------------------------------------
                 I
                 I
               +-------------+
               + DO          +
     +++++++++++    10        +
     +         + K=1,7       +
     +          +------------+
     +                I
     +                I
     +      ---------------------------------------
  10 +++++++++I ORP(K) =IRP                        I
             ---------------------------------------
                 I

     ***WRITE(IOIPT,20)
                 I
               +-------------+
               + DO          +
     +++++++++++    15        +
     +         + K=1,60      +
     +          +------------+
     +                I
     +      WRITE(IOIPT,25) (ORP(J),J=1,7),(O(L),L=1,10),IRP,O(1),
     +      (ORP(J),J=1,7),(O(L),L=1,10),IRP,O(1),(ORP(J),J=1,7)
```

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(CONTINUED ON PAGE 29)


```
15 ********CONTINUE

20          FORMAT(1H1)

25          FORMAT(1X,2(/I2,10A4,I2,A4),/I2)

          ***RETURN

          END

          FUNCTION SUBGRO(TP,H,A)

          INTEGER*2 H,A,TP

          INTEGER*2 IPASS,SUBGRO,ITEST,N,O(11)

          INTEGER*2 YHH(4)/1,2,7,9/,SCLEHR(4)/100,80,60,30/

          INTEGER*2 SCLESG(4)/100,80,40,10/
                    I
          ------------------------------------------
          I SUBGRO =0                               I
          I ITEST=IPASS(H,A,N,O)                    I
          ------------------------------------------
                    I

          GO TO (10,10,30,40,10),TP

          ***WRITE(ICTPT,500)

500       FORMAT(' *** ERROR *** INCORRECT TYPE SPEC. ')

          ***RETURN

10        CONTINUE
                    I
                    I
                 . * .
               . *   IF  * .
             *(ITEST.EQ.1.AND.N.EQ.1)
           I *  .                . * I
           I     * .          . *     I
           I        * . *             I
         - I        0 I          * I
        -------    -------      -------
        I SUBGID=100I     I      I     I
        -------    -------      -------


          ***RETURN

30        CONTINUE
                    I
        (CONTINUED ON PAGE 31)
```

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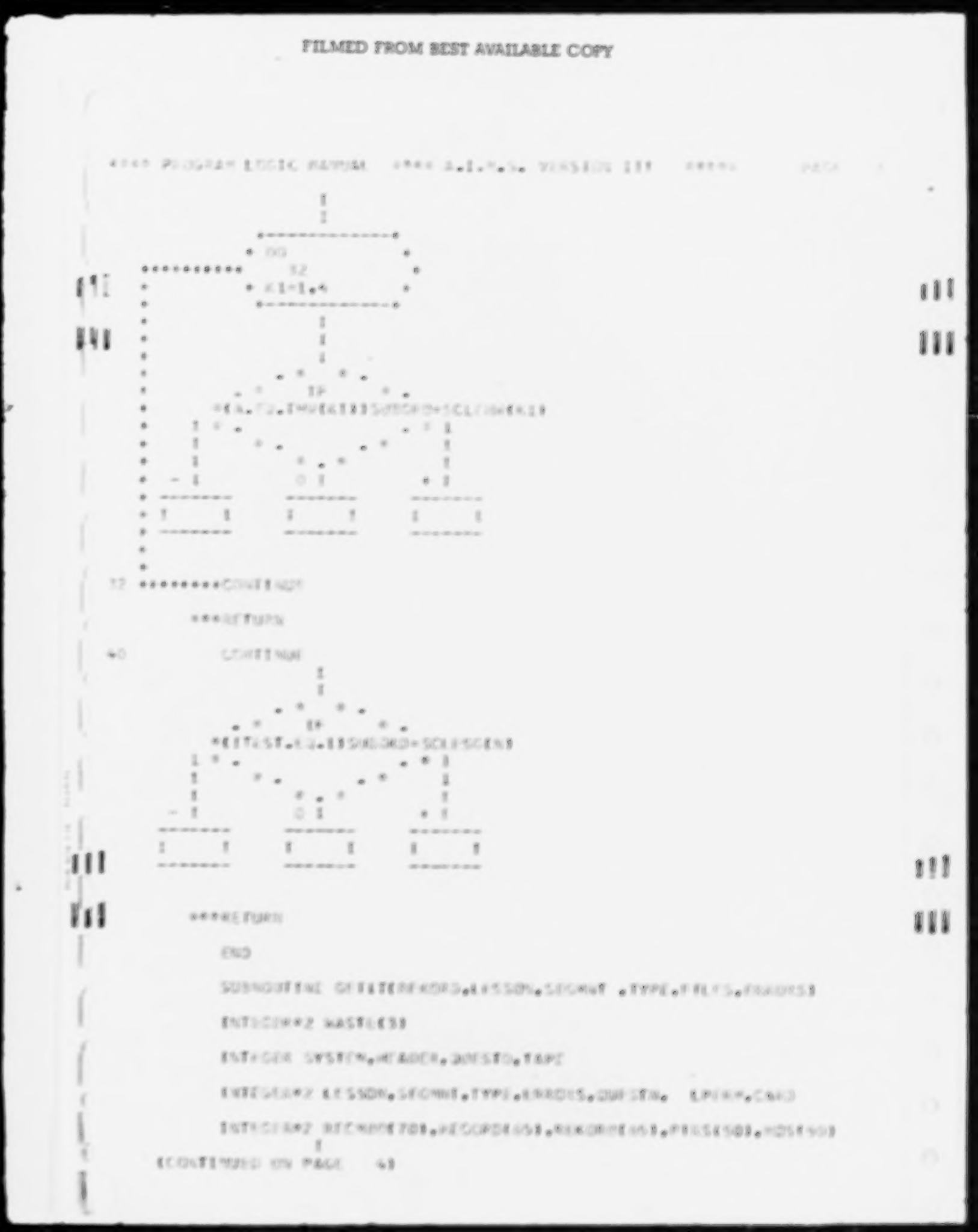

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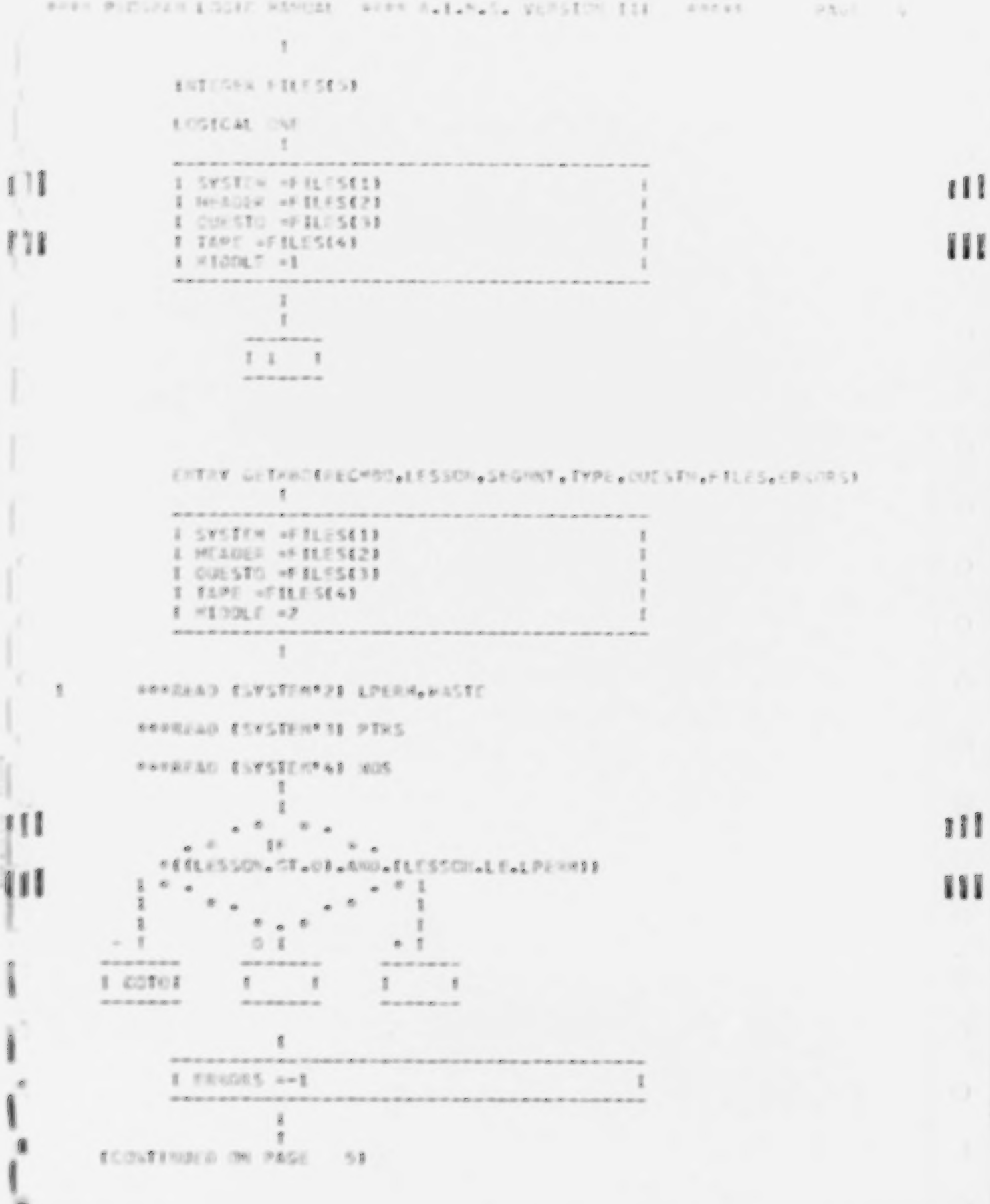

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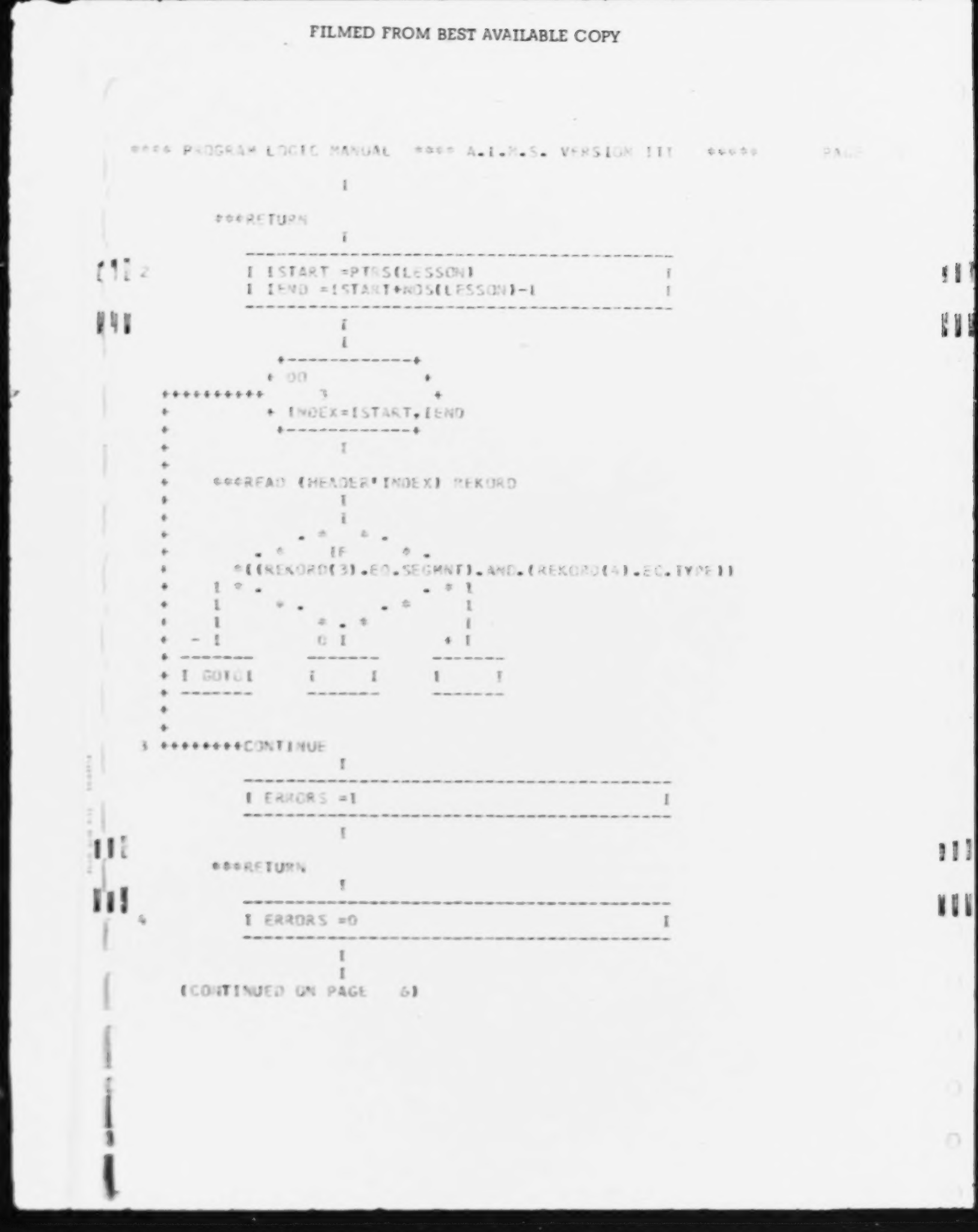

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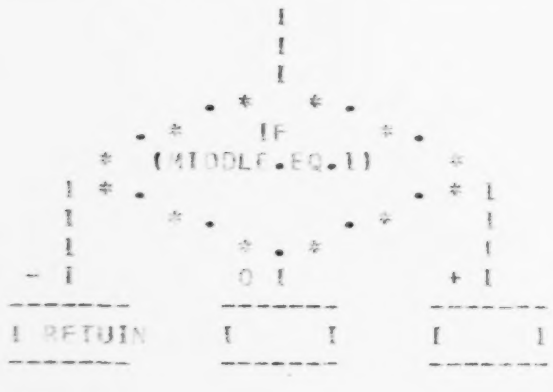
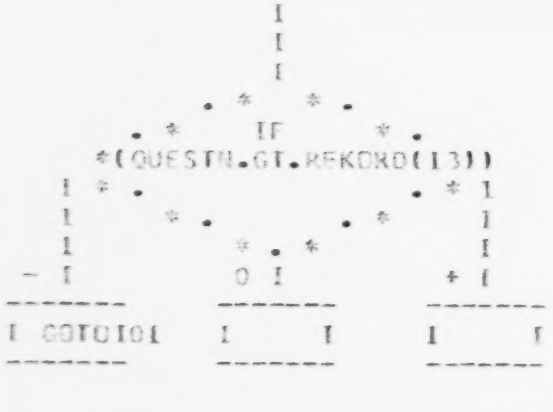


IPOINT =REKORD(9)+QUESTN-1



***READ(QUESTO'IPOINT) RECMBO

***RETURN

701 ERRORS =-1

***RETURN

ENTRY FINDIT(RECORD,LESSON,SEGMNT,TYPE,CARD,FILES,ERRORS,ONE)

SYSTEM =FILES(1)
HEADER =FILES(2)
QUESTO =FILES(3)
TAPE =FILES(4)
ERRORS =0

(CONTINUED ON PAGE 7)

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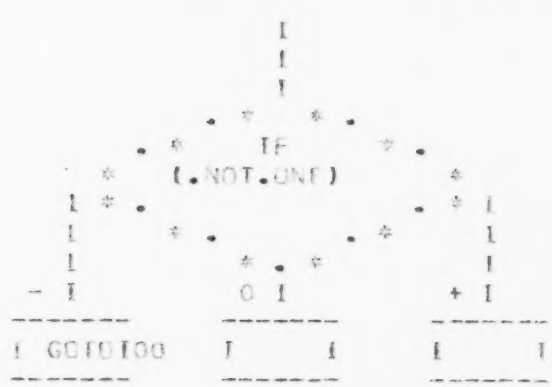
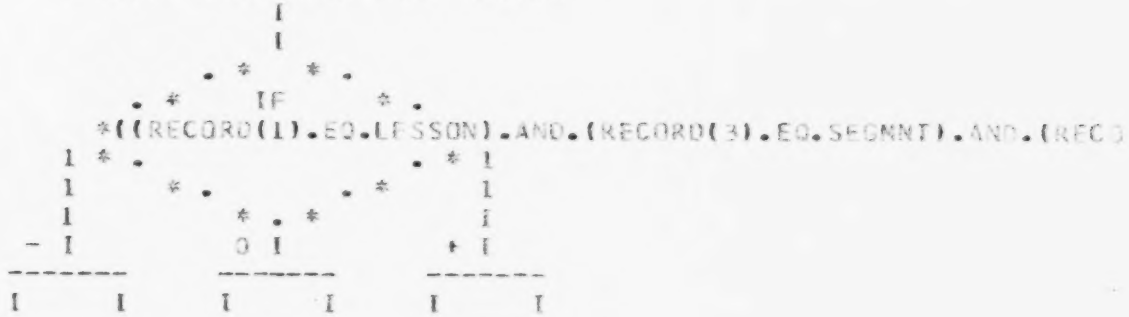
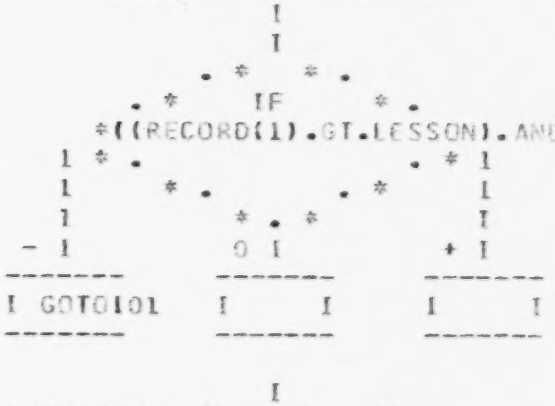


***REWIND TAPE

100 ***READ (TAPE,END=701) RECORD



.EQ.TYPE)) GO TO 300



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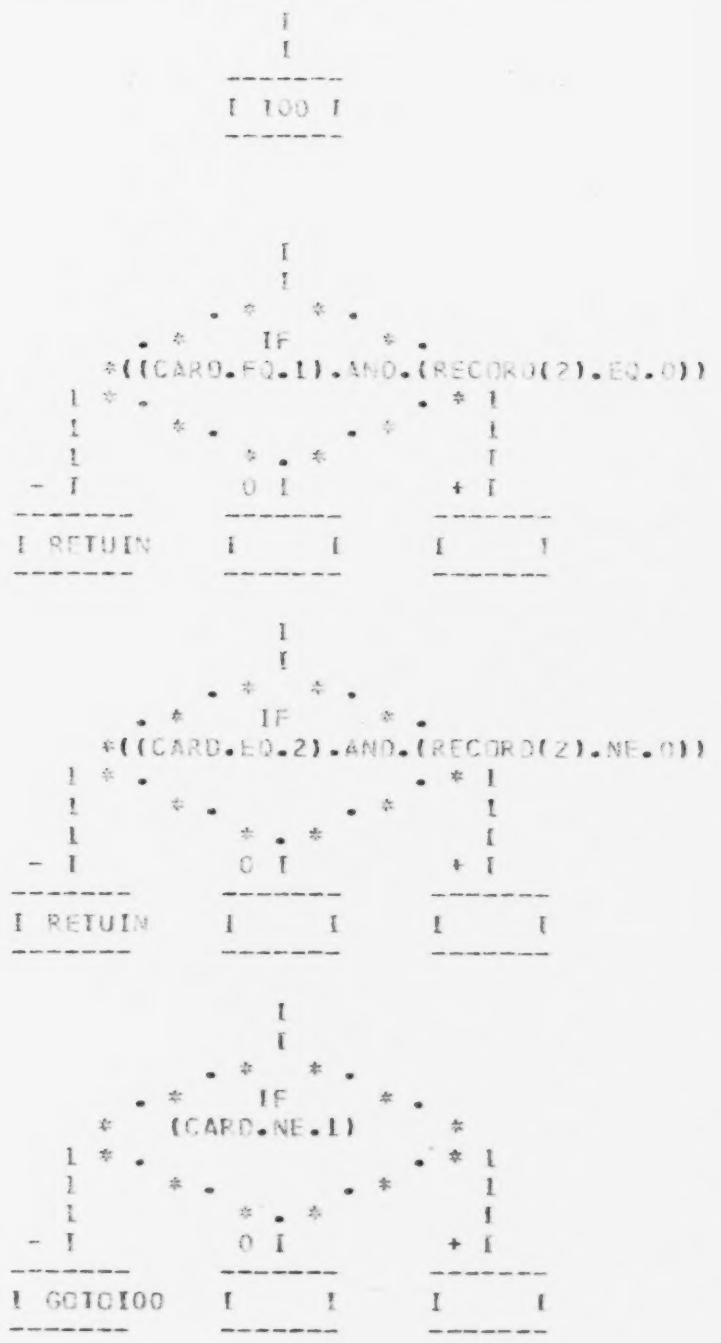

BACKSPACE TAPE

BACKSPACE TAPE

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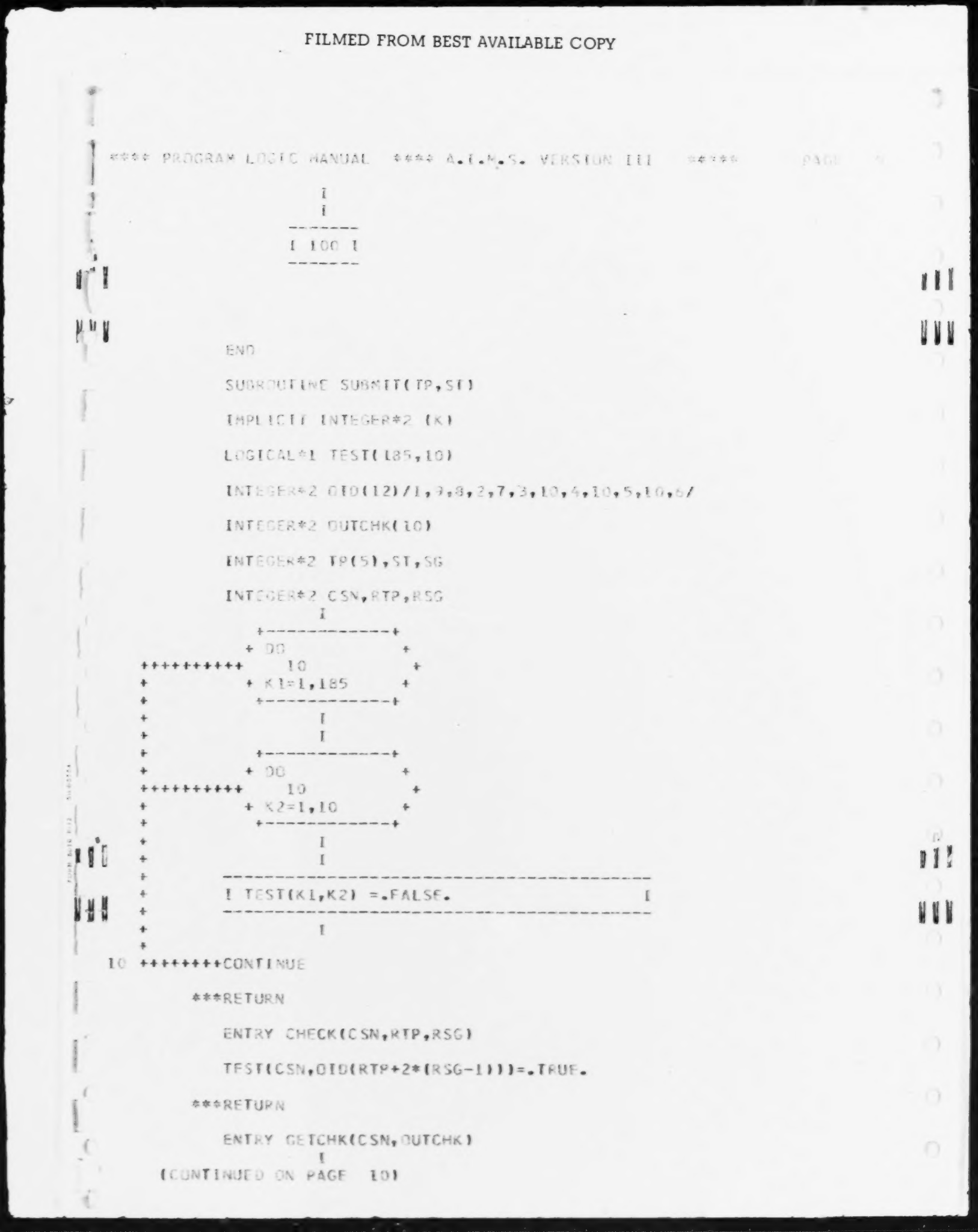

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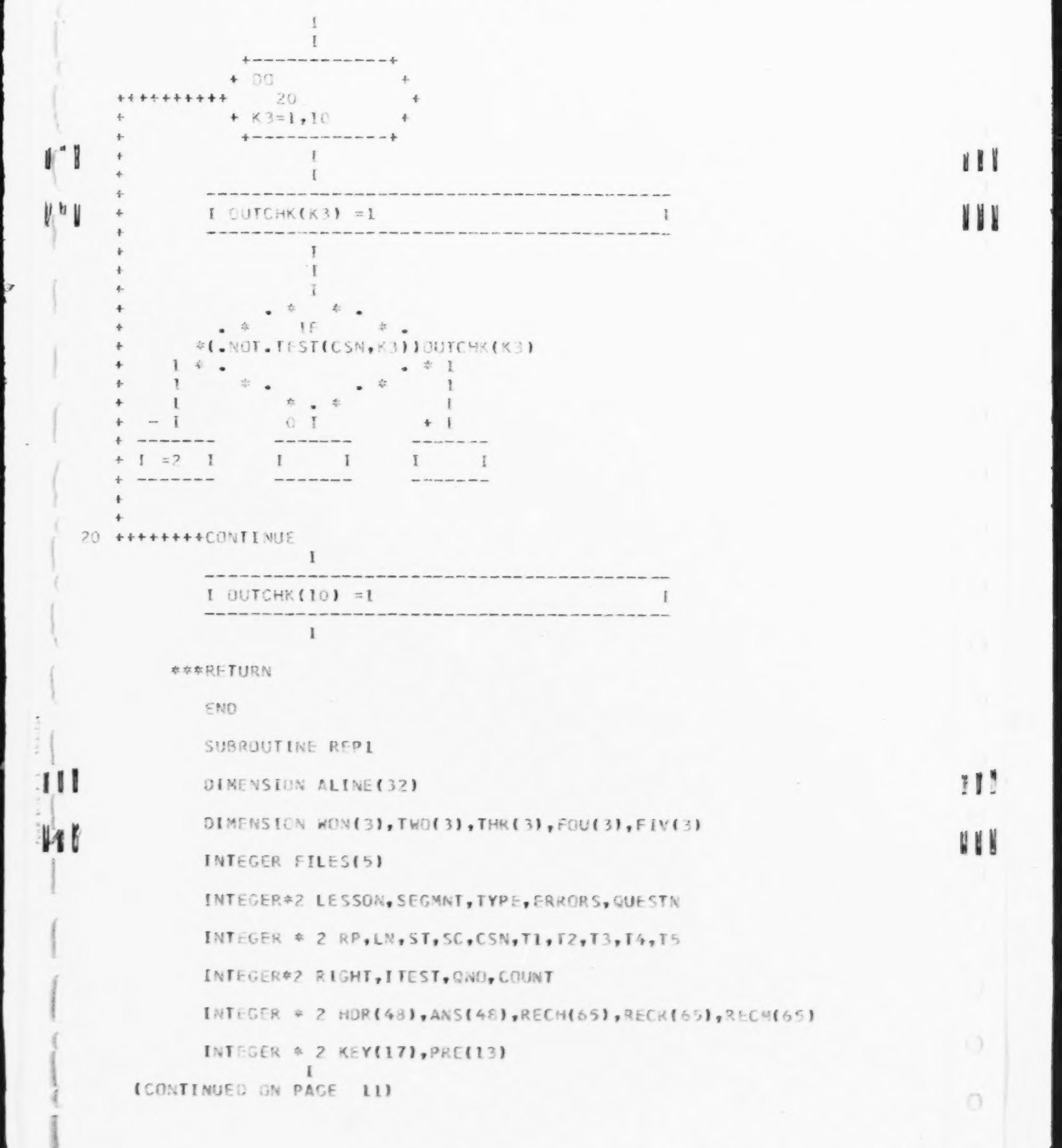


```
      ***RETURN
          END
          SUBROUTINE REP1
          DIMENSION ALINE(32)
          DIMENSION WON(3),TWO(3),THR(3),FOU(3),FIV(3)
          INTEGER FILES(5)
          INTEGER*2 LESSON,SEGMNT,TYPE,ERRORS,QUESTN
          INTEGER * 2 RP,LN,ST,SC,CSN,T1,T2,T3,T4,T5
          INTEGER*2 RIGHT,ITEST,QNO,COUNT
          INTEGER * 2 HDR(48),ANS(48),RECH(65),RECR(65),RECM(65)
          INTEGER * 2 KEY(17),PRE(13)
```

(CONTINUED ON PAGE 11)

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```
      INTEGER * 2 TP(5),CARD,KTP,KST

      INTEGER * 2 CRNM(6)

      INTEGER * 2 GRD

      INTEGER * 2 NAMEND(23)

      INTEGER * 2 SECTN(2),GROUP(2),BACK(65)

      DATA WON/'PRE ','TEST','    '/,TWO/'POST',' TES','T   '/,
     THR/'HOME','WORK','    '/,FOU/'STUD','Y GU','IDE '/,
     FIV/'ASSI','GNME','NT  '/

      DATA ALINE/32*'----'/

      LOGICAL ONE

      EQUIVALENCE ( HOR(1), RECM(18)) , ( QNO , RECM(13))

      EQUIVALENCE ( KEY(1), RECM(41)) , ( PRE(1), RECM(58))

      EQUIVALENCE ( ANS(1), RECR(18)) , ( CSN , RECR(2)) , ( GRD , RECR(
     10))

      EQUIVALENCE (NAMEND(1) , BACK(1)) , (SECTN(1) , BACK(42)),
     (GROUP(1) , BACK(44))

    ***READ(1,90) RP,LN,ST,SC,(TP(K),K=1,5),(CRNM(J),J=1,6)

90    FORMAT(I2,7X,3I2,5I1,9X,6A2)
```

```
I LESSON =LN
I FILES(1) =12
I FILES(2) =6
I FILES(3) =8
I FILES(4) =4
I FILES(5) =0
I GRAD =0.00
I CARD =2
I COUNT=0
I IRPT =1
I IPGE =1
I IOUT =3
I ONE  =.TRUE.
```

```
+-----------+
+ 00        +
+++++++++++  18          +
+          + KTP=1,5     +
+          +-----------+
+                |
+                |
```

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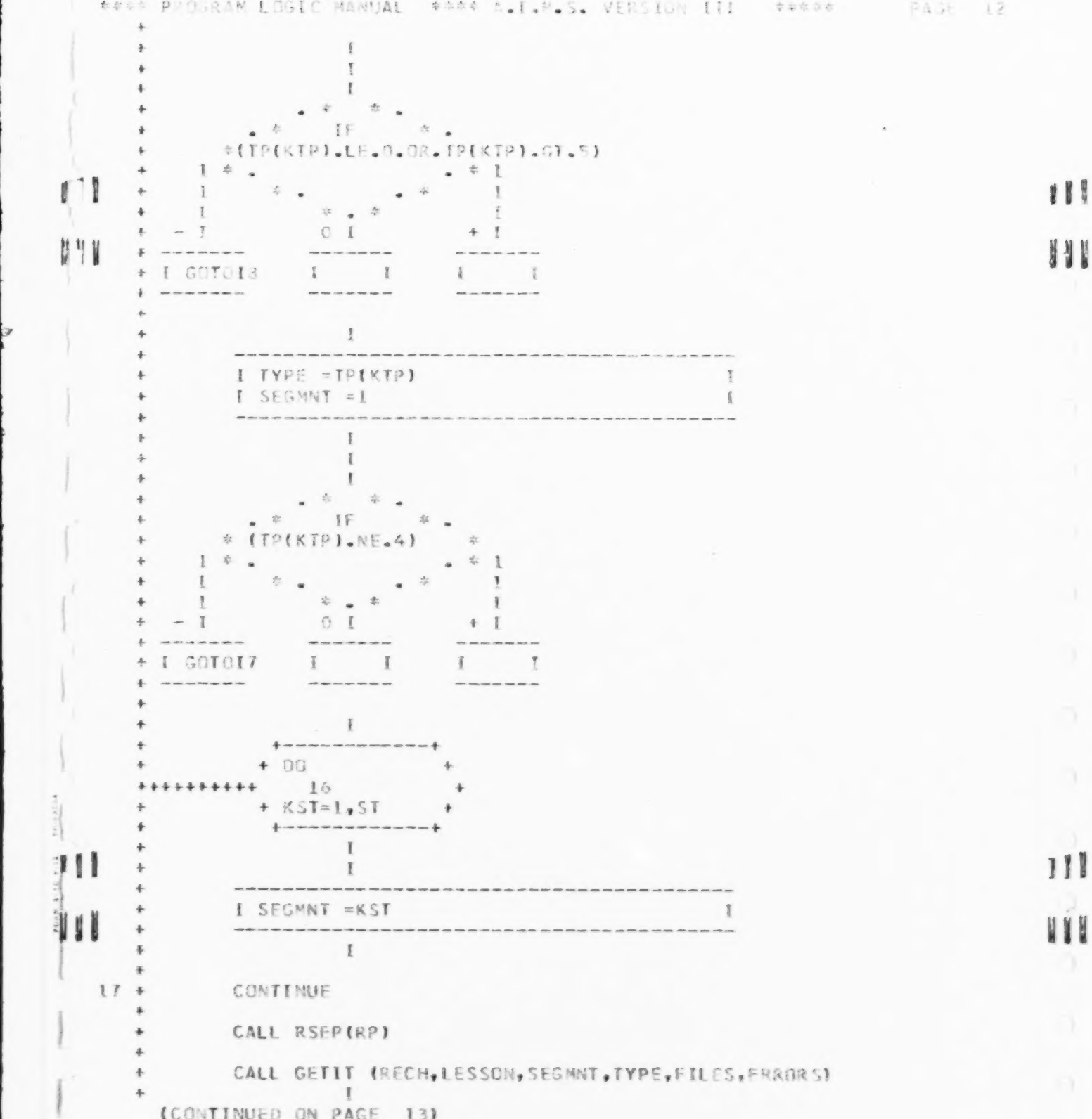

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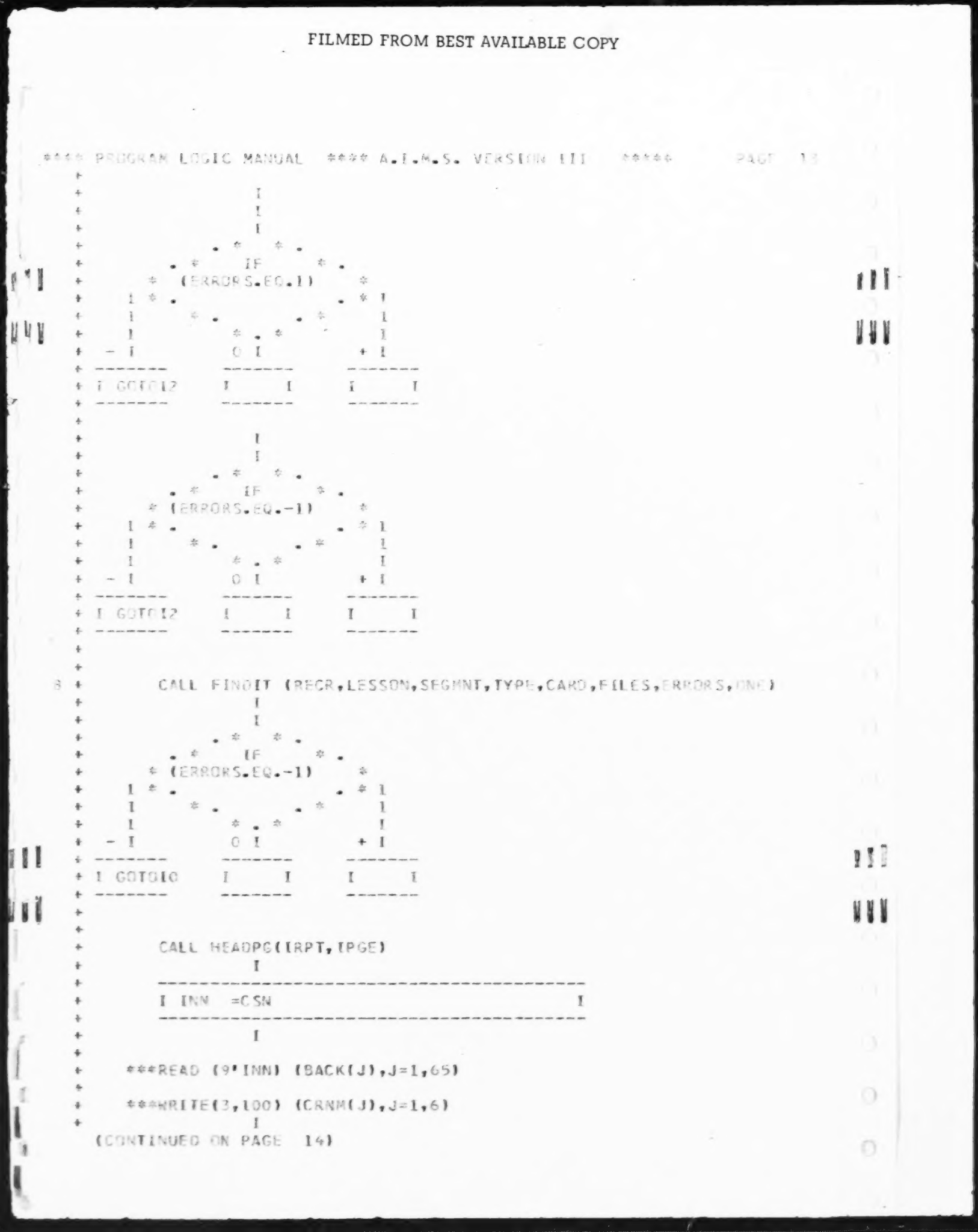

(CONTINUED ON PAGE 14)

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```
     +
     +                  I
     +
 100 +        FORMAT(40X,'STUDENT PERFORMANCE ANALYSIS FOR COURSE ',A2)
     +
     +        GO TO (26,27,28,29,30),TYPE
     +
  26 +     ***WRITE(IOUT,102) LN,(WON(J),J=1,3),SEGMNT
     +                  I
     +               -------
     +               I 31  I
     +               -------
     +
     +
     +
  27 +     ***WRITE(IOUT,102) LN,(TWO(J),J=1,3),SEGMNT
     +                  I
     +               -------
     +               I 31  I
     +               -------
     +
     +
     +
  28 +     ***WRITE(IOUT,102) LN,(THR(J),J=1,3),SEGMNT
     +                  I
     +               -------
     +               I 31  I
     +               -------
     +
     +
     +
  29 +     ***WRITE(IOUT,102) LN,(FOU(J),J=1,3),SEGMNT
     +                  I
     +               -------
     +               I 31  I
     +               -------
     +
     +
     +
  30 +     ***WRITE(IOUT,102) LN,(FIV(J),J=1,3),SEGMNT
     +
 102 +        FORMAT(1H0,39X,'VOLUME ',I2,12X,3A4,13X,'SEGMENT ',I2)
     +
  31 +        CONTINUE
     +
     +     ***WRITE(IOUT,117) (ALINE(J),J=1,32)
     +
 117 +        FORMAT(1X,32A4)
     +
     +     ***WRITE(IOUT,115)
     +
 115 +        FORMAT(1H0,1X,'CSN',16X,'NAME',16X,'ID NUMBER',22X,'SECTION',2X,
     +        'GROUP')
     +                  I
```

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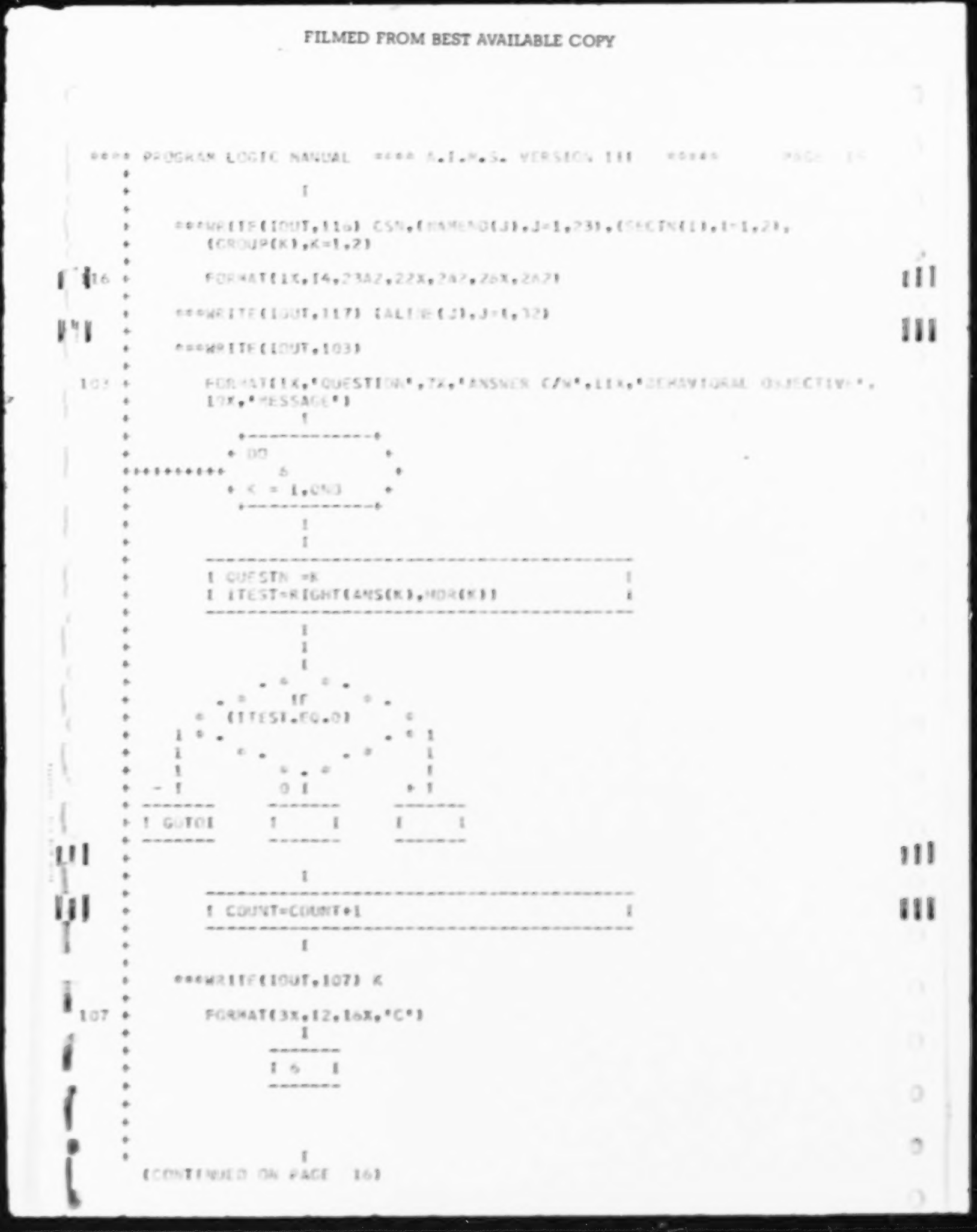

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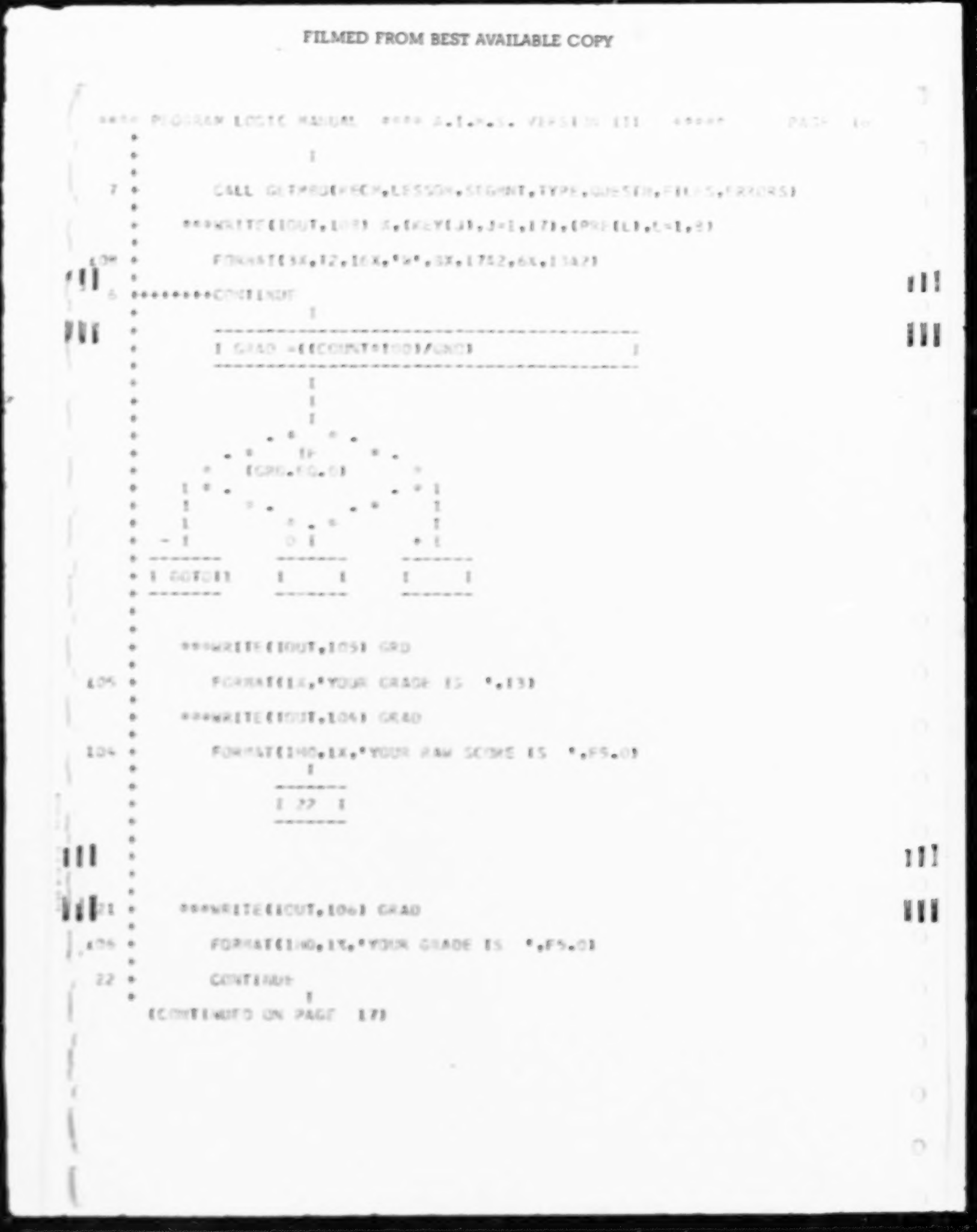

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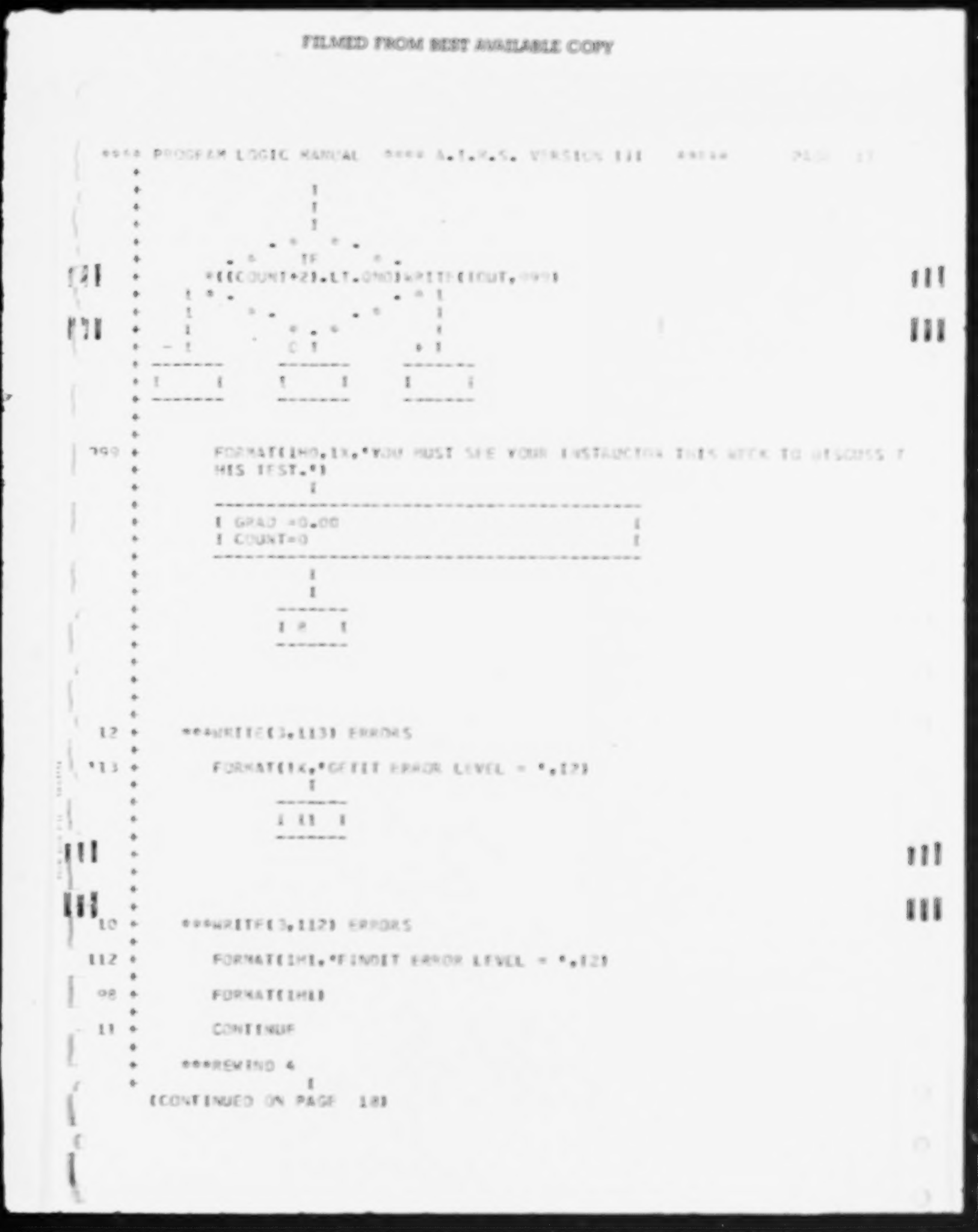

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```
     *
     *                    I
     *                    I
     *                    I
     *               .  *    *  .
     *          .  *     IF       *  .
     *        * (TP(KIP).NE.6)        *
     *    I  * .                   .  *  I
     *    I      * .           . *       I
     *    I           * . *              I
     *  - I            0 I             + I
     * --------     -------        -------
     * I GOTO16     I     I        I     I
     * --------     -------        -------
     *
     *
16  ********CONTINUE
     *
15  ********CONTINUE

         ***RETURN

            END

            SUBROUTINE REPO7

            COMMON /FILES/IFILES(15)

            DIMENSION ITOS(200),IDATA(5),LEVELS(200)

            INTEGER * 2 RP,LN,CRNM(6)

         ***READ(1,90) RP,LN,(CRNM(J),J=1,6)

90          FORMAT(I2,7X,I2,13X,6A2)
                          I
                 *-------------*
                * DO             *
    ***********     10             *
    *           * I=1,15         *
    *            *-------------*
    *                      I
    *                      I
    *           ------------------------------------
    *           I IFILES(I) =I                     I
    *           ------------------------------------
    *                      I
    *
10  ********CONTINUE
                       I
            ------------------------------------
            I INLES=LN                         I
            ------------------------------------
                       I

            CALL DECIDE(INLES,ITOS,IDATA,LEVELS)
                       I
            ------------------------------------
            I IPT   =IFILES(J)                 I
            ------------------------------------
                       I
                       I
```

** CONTINUED ON PAGE ***

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*CONTINUED ON PAGE [illegible]


```
              I
      CALL  DIVIDE(IDATA,ITOS,INLES,LEVELS)
   ***RETURN
      END
      SUBROUTINE DECIDE( INLES,ITOS,DATA,LEVELS )
      INTEGER HEADER,SYSTEM
      INTEGER LEVELS(200),ITOS(200),DATA(5)
      INTEGER IO,PAGE
      INTEGER*2 TOTBLF(48,10),HDRS(66,10),OCTBLF(10,2)
      INTEGER*2 TOCNTS(200),BCKG(65)
      INTEGER*2 NOS(40),PTRS(40),STUREC(261),RECS(65),RECH(65),RECD(65)
      INTEGER*2 INFORM(12),DATE(4),TIME(4)
      INTEGER*2 ROSTER,LPERM,HPERM,LTEMP,HTEMP,ERRFLG,RIGHT
      INTEGER*2 ISTU1(65),ISTU2(65),ISTU3(65),ISTU4(65)
      EQUIVALENCE (INFORM(5),DATE(1)),(INFORM(9),TIME(1))
      EQUIVALENCE (ISTU1(1),STUREC(1)),(ISTU2(1),STUREC(66))
      EQUIVALENCE (ISTU3(1),STUREC(131)),(ISTU4(1),STUREC(196))
      COMMON /FILES/ ICD,IPC,IPT,IWI,ISCH,HEADER,IOCT,IQUES,IBKGD,ISCORE
     ,ITEXT,SYSTEM
              I
     ----------------------------------------------
     I IWRONG =0                                   I
     I IO    =6                                    I
     I ITAPE=IWI                                   I
     I IHEAD=HEADER                                I
     I ISYS =SYSTEM                                I
     I DATA(3) =0000                               I
     I IRPT =13                                    I
     I PAGE =1                                     I
     ----------------------------------------------
              I
              I
       *---------------*
      * DO              *
**********   I           *
*     * N=1,200         *
*      *---------------*
*             I
*             I
*    ----------------------------------------------
*    I TOCNTS(N) =0000                             I
*    ----------------------------------------------
```

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(CONTINUED ON PAGE 20)


```
                    I
          ITOS(N)=0000
                    I
          ------------------------------------------
          I LEVELS(N) =0000                        I
          ------------------------------------------
                    I
    I +++++++++CONTINUE

          CALL HEADPG(IRPT,PAGE)

       ***WRITE (IPT,14)

 14       FORMAT(1H ,40X,'TERMINAL OBJECTIVE THRESHOLD LEVEL SUMMARY',/40X,
          '-----------------------------------------',/1H ,30X,'TERMINAL OB
          JECTIVE',23X,'THRESHOLD LEVEL',/30X,'--------------------',23X,'----
          ----------',/1H0)

 15    ***READ (ICD,16,END=100) INDEX,ILEV

 16       FORMAT (2I3)
                    I
                    V
                 . *   * .
              . *     IF     * .
            *(LEVELS(INDEX).GT.0)
         I * .                   . * I
         I     * .           . *     I
         I         * . * .           I
       - I           0 I             + I
      -------      -------         -------
      I GOTO1002   I     I         I     I
      -------      -------         -------

                    I
          ------------------------------------------
          I LEVELS(INDEX) =ILEV                    I
          ------------------------------------------
                    I
                    I
                 -------
                 I 15  I
                 -------


 302      ***WRITE(IPT,7003) INDEX,ILEV,LEVELS(INDEX)

7003      FORMAT (1H1,'**** ERROR ****    DUPLICATE THRESHOLD SPECIFICATION-
            I.D. = ',I3,' ATTEMPTED VALUE = ',I3,' ORIGINAL VALUE = ',I3,///
          ////////)

          CALL EXIT
                    I
          ------------------------------------------
 400      I N    =0                               I
          ------------------------------------------
                    I
```

(CONTINUED ON PAGE 21)

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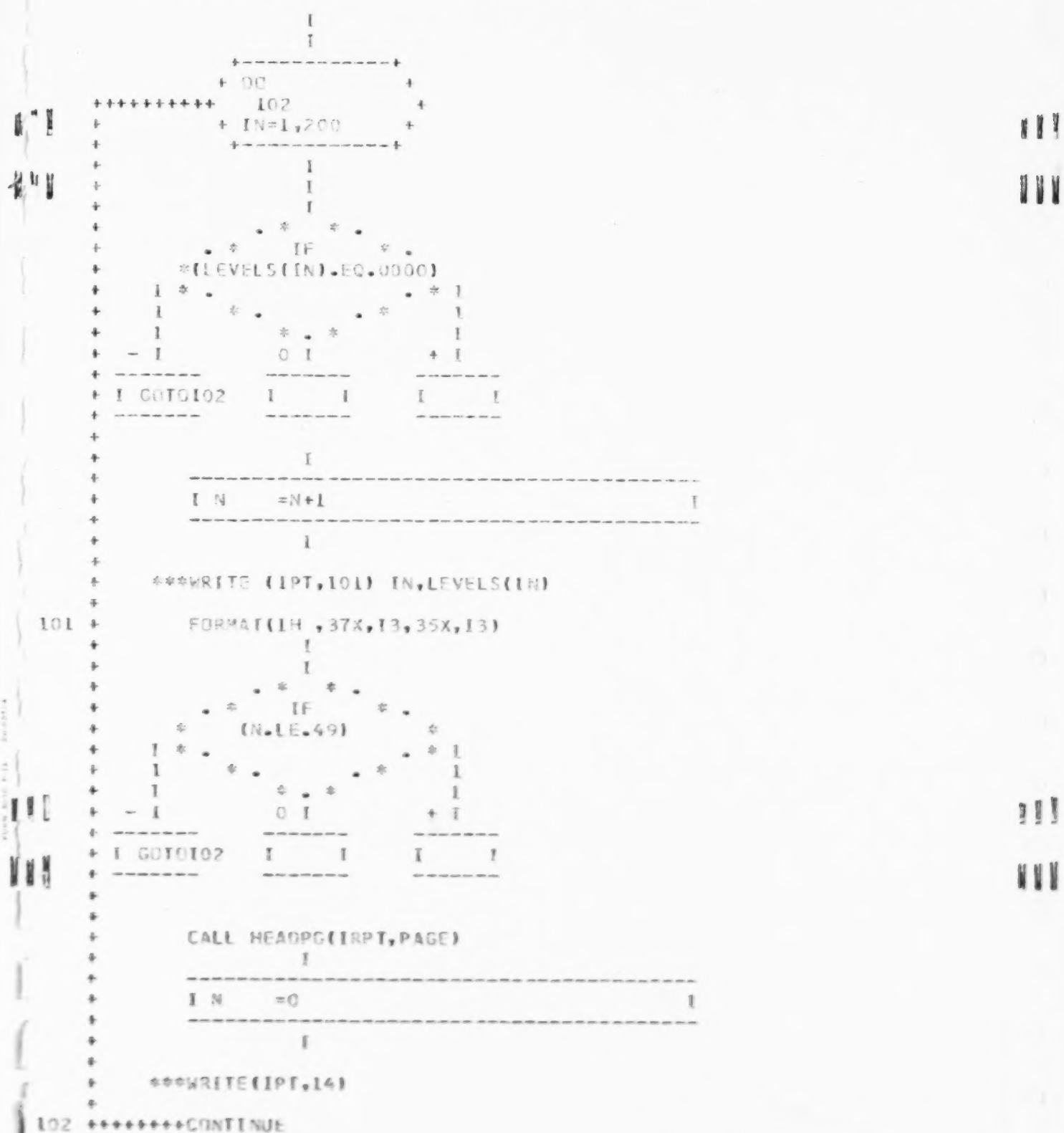

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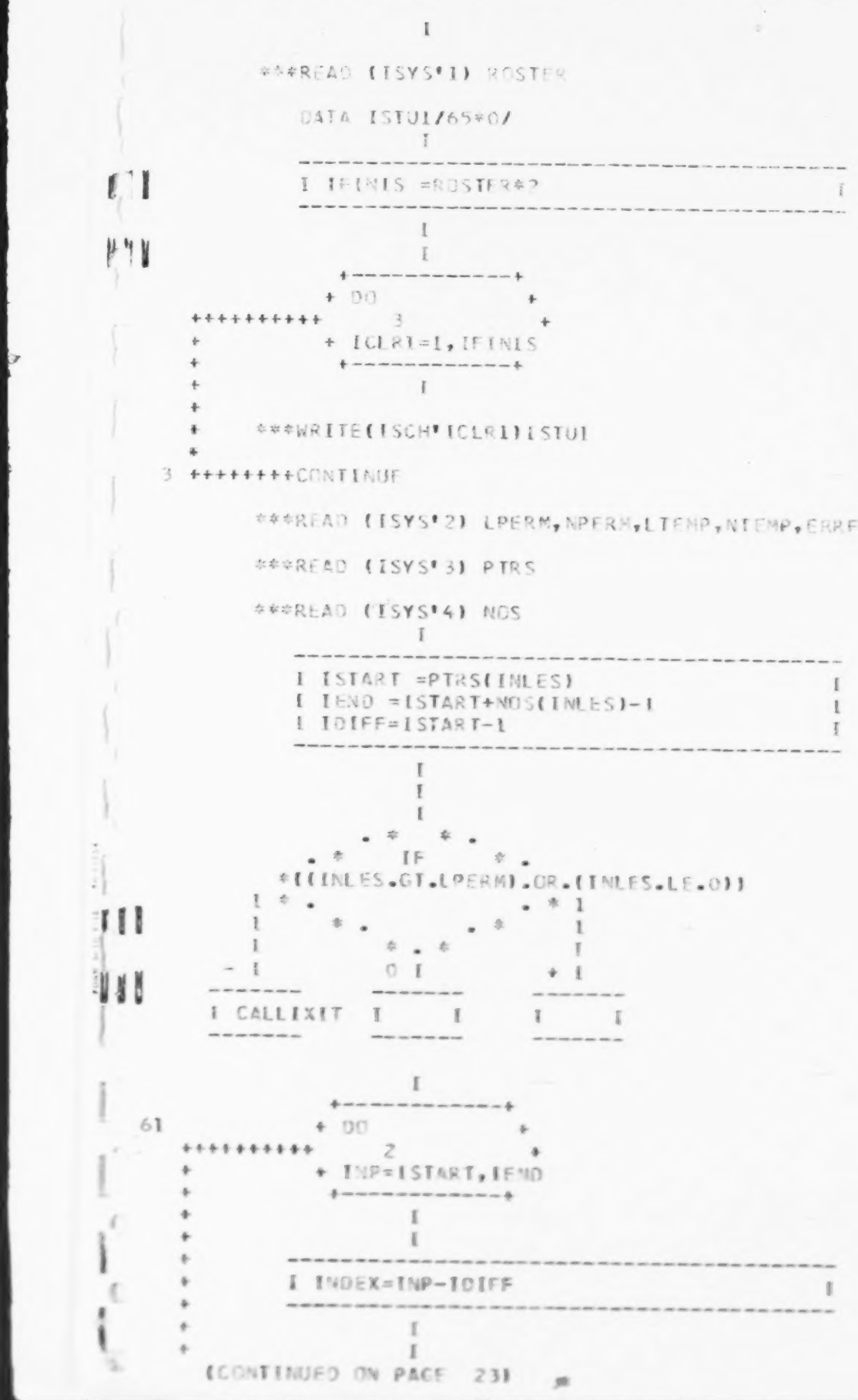

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```
      +                    I
      +
      +     ***READ (IHEAD'INP) (HDRS(N,INDEX),N=1,66)
      +
      +        OCTBLE(INDEX,1)=HDRS(4,INDEX)
      +
      +        OCTBLE(INDEX,2)=HDRS(3,INDEX)
      +                    I
      +        ------------------------------------------
      +        I NQUES=HDRS(13,INDEX)                   I
      +        I IPOINT =HDRS(8,INDEX)                  I
      +        I IANP =IPOINT+NQUES-1                   I
      +        ------------------------------------------
      +                    I
      +                    I
      +              +-------------+
      +             + DO            +
      ++++++++++          2          +
      +             + J=IPOINT,IANP+
      +              +-------------+
      +                    I
      +
      +     ***READ (IQUES'J) RECQ
      +                    I
      +        ------------------------------------------
      +        I INDX1=J-IPOINT+1                       I
      +        ------------------------------------------
      +                    I
      +
      +        TOTBLE(INDX1,INDEX)=RECQ(TO)
      +                    I
      +        ------------------------------------------
      +        I ITO  =RECQ(TO)                         I
      +        I TOCNTS(ITO) =TOCNTS(ITO)+1             I
      +        ------------------------------------------
      +                    I
      +
   2  ++++++++CONTINUE
           ***REWIND ITAPE
   11      ***READ (ITAPE,END=7000) RECS
                        I
                        I
                     . *   * .
                  . *     IF      * .
                *(RECS(1).NE.INLES) *
              I * .                   . * I
              I     * .           . *     I
              I         * .   * .         I
           - I           0 I           * I
          -------       -------       -------
          I GOTO12      I     I       I     I
          -------       -------       -------

                        I
          (CONTINUED ON PAGE  24)
```

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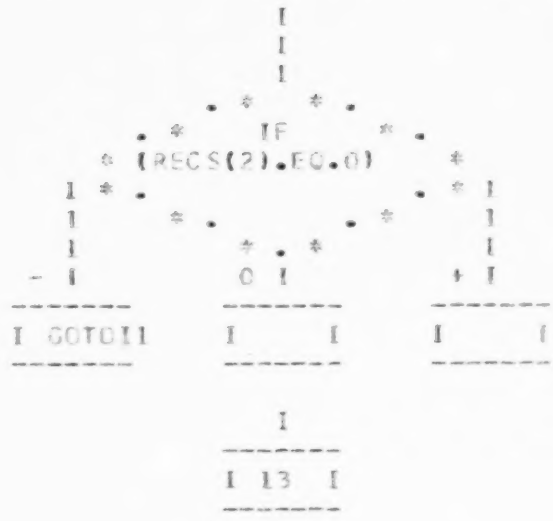

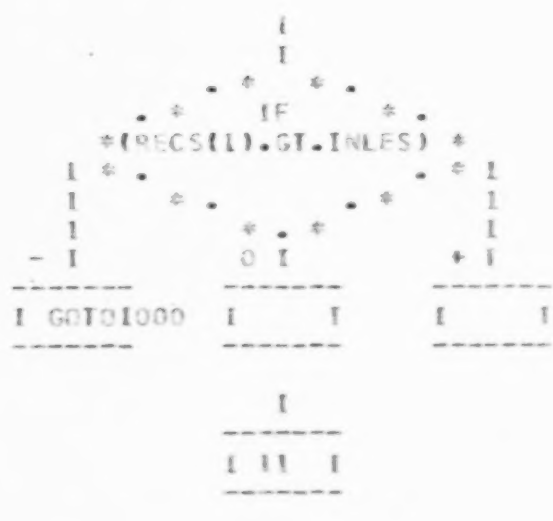


```
1000      ***WRITE (IPT,7001) INLES
 7001       FORMAT (1H1,'NO RECORD OF LESSON ',I3,///////)
            CALL EXIT
   13       CONTINUE
```

(CONTINUED ON PAGE 25)

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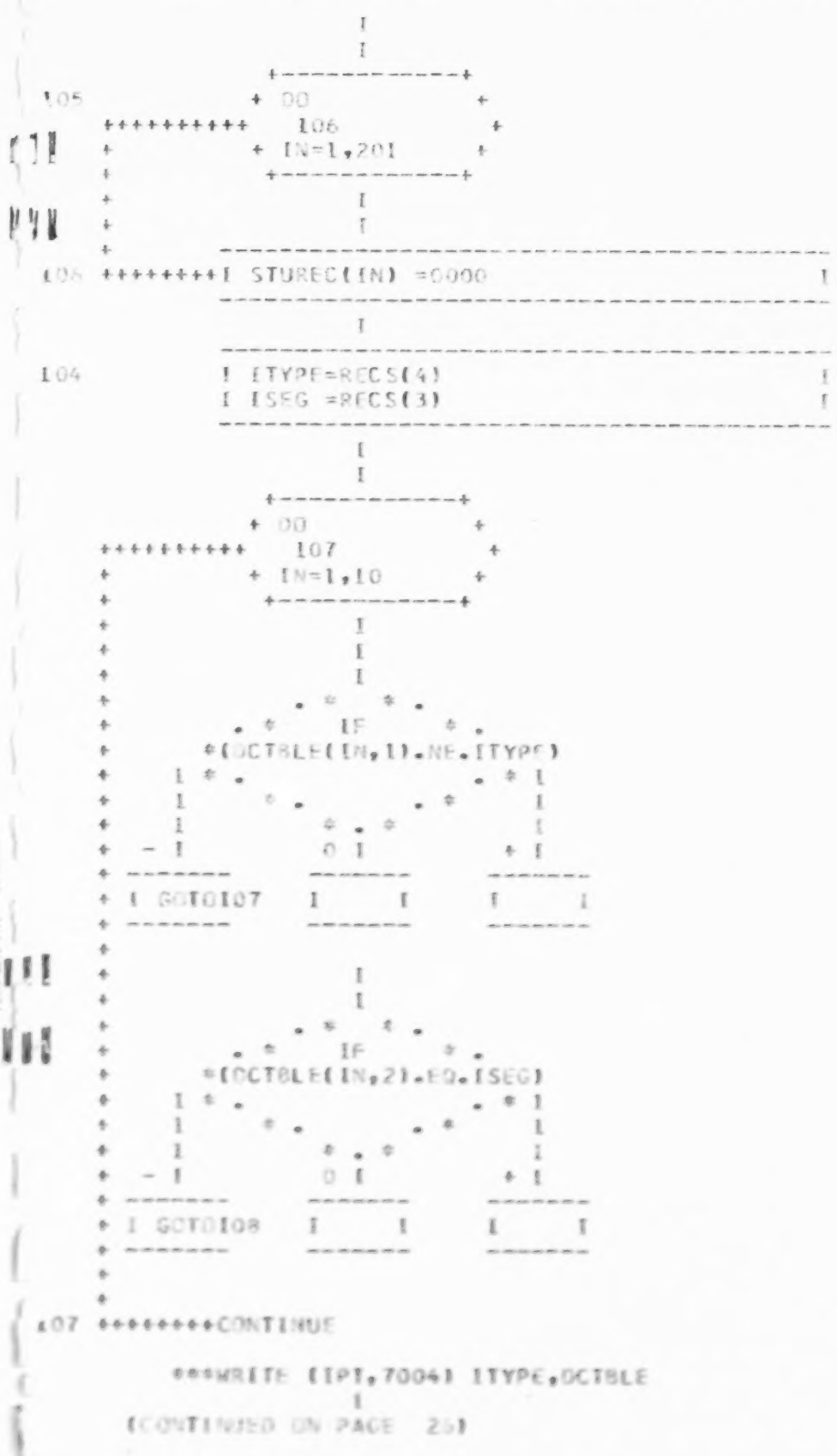

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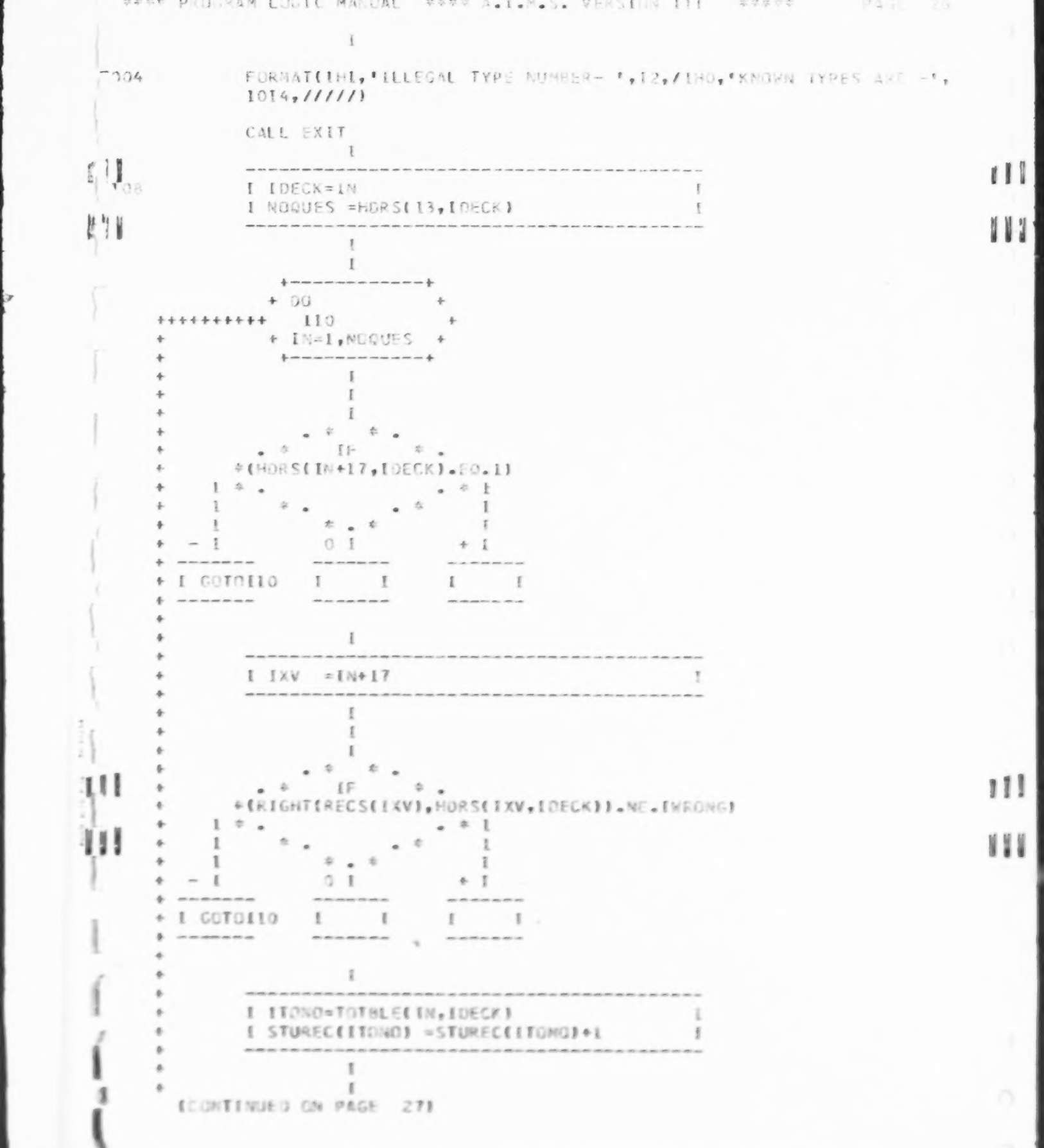

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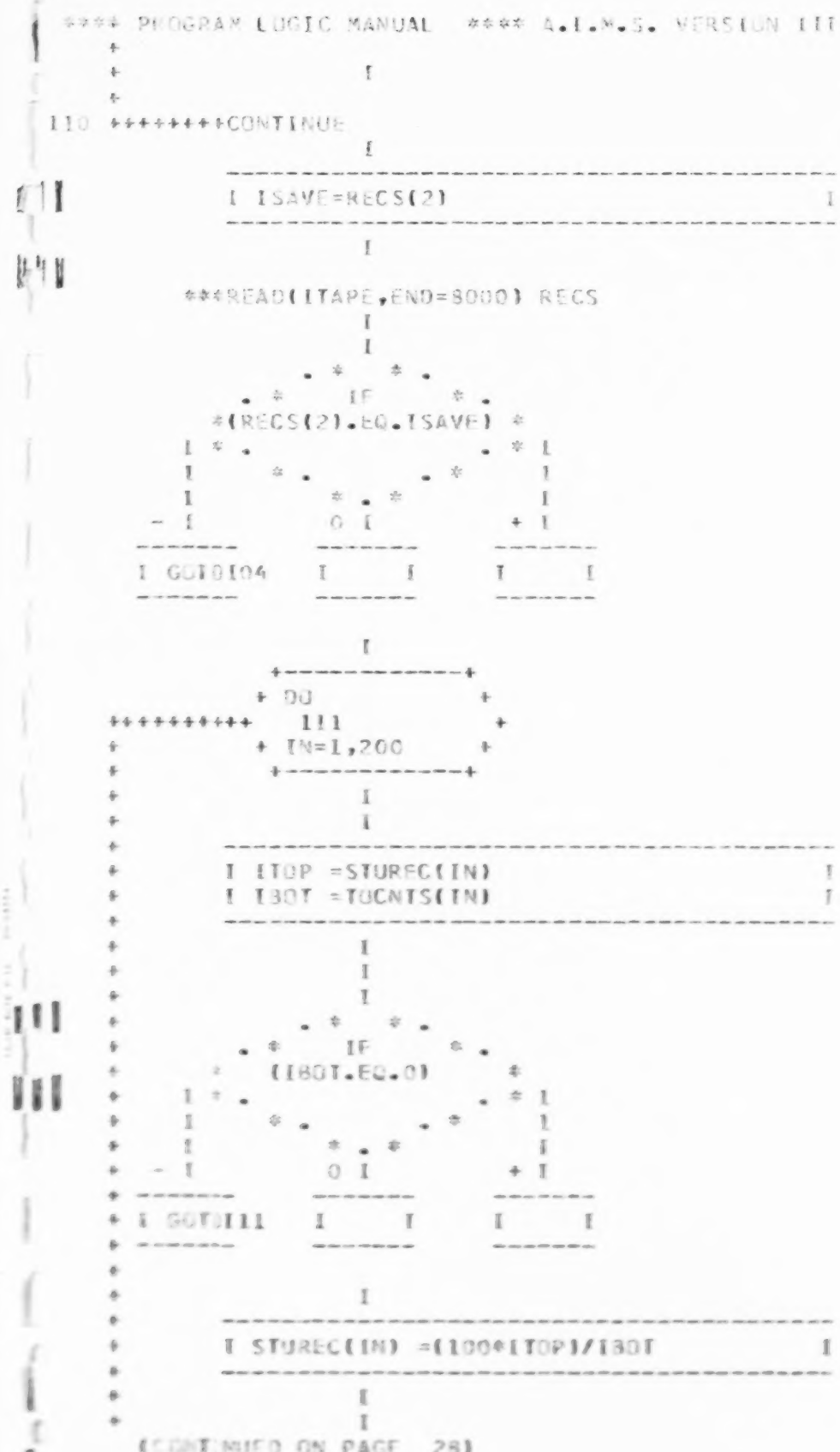

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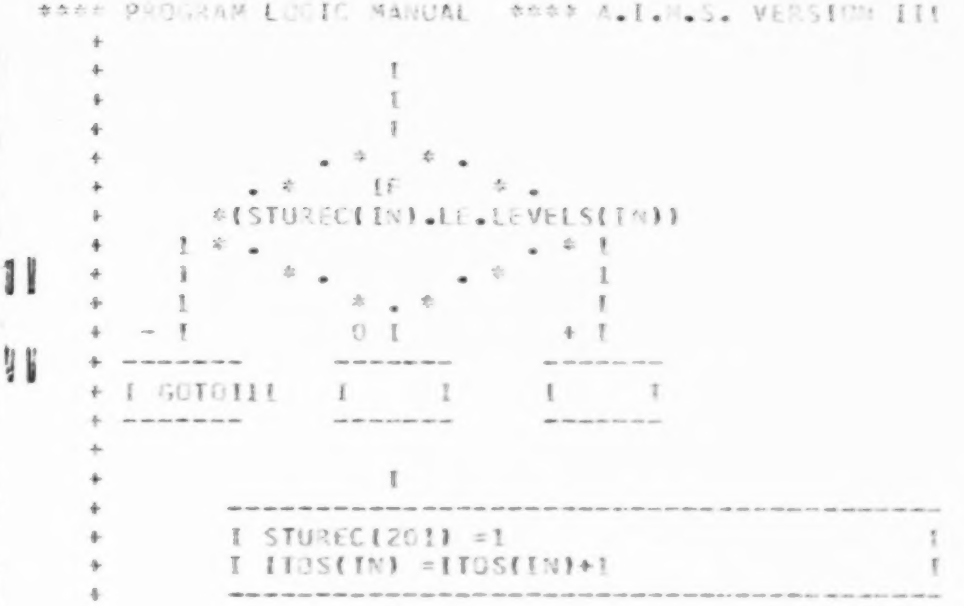
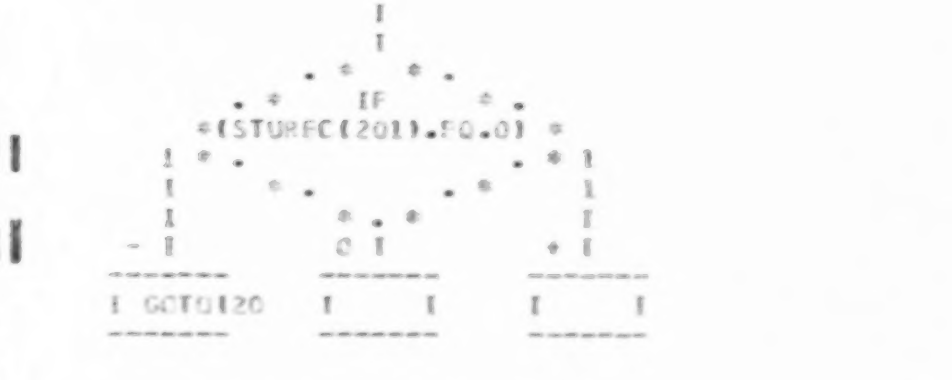


111 ********CONTINUE



CALL HEADPG(IRPT,PAGE)

***READ(IBKGD'ISAVE)BCKG

***WRITE (IPT,112) (BCKG(IAT),IAT=6,18),(BCKG(IAT),IAT=19,23),INL

(CONTINUED ON PAGE 291)

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```
                    I
112         FORMAT (1H0,13A2,' I.D. NUMBER ',5A2,/1H ,'THE STUDENT IDENTIFIE
            D ABOVE HAS PERFORMED BELOW PRE-SET LEVELS OF PERFORMANCE ON TERM
            NAL OBJECTIVE(S) IN LESSON ',I2,/1H0,'----------------------------
            ---------- PERFORMANCE DATA ----------------------------------
            ---',/1H0,5X,'I.D.',20X,'PERCENT ERR',20X,'CUTOFF LEVEL',/1H0)
                    I
                 +-------------+
                 + DO          +
          +++++++++   113       +
          +      + IRT=1,200    +
          +       +-------------+
          +            I
          +            I
          +            I
          +          . * .
          +        . +   IF    + .
          +      +(STUREC(IRT).LE.0000)
          +    I * .                . # 1
          +    1     + .        . +    1
          +    1       + . # .        1
          +  - 1        C 1          + 1
          + -------    -------      -------
          + I GOTO113  I     I      I     I
          + -------    -------      -------
          +
          +
          +    ***WRITE (IPT,114)IRT,STUREC(IRT),LEVELS(IRT)
          +
114       +       FORMAT (1H ,5X,I3,25X,I3,10X,I3)
          +
113       ++++++++CONTINUE
                    I
                 ------------------------------------------
120              I IPOINT =(ISAVE*4)-3                    I
                 I INEXT=IPOINT+1                         I
                 I INEX =INEXT+1                          I
                 I INX  =INEX+1                           I
                 ------------------------------------------
                    I
              ***WRITE (ISCH*IPOINT) ISTU1

              ***WRITE (ISCH*INEXT) ISTU2

              ***WRITE(ISCH*INEX)ISTU3

              ***WRITE(ISCH*INX)ISTU4
                    I
            (CONTINUED ON PAGE  30)
```

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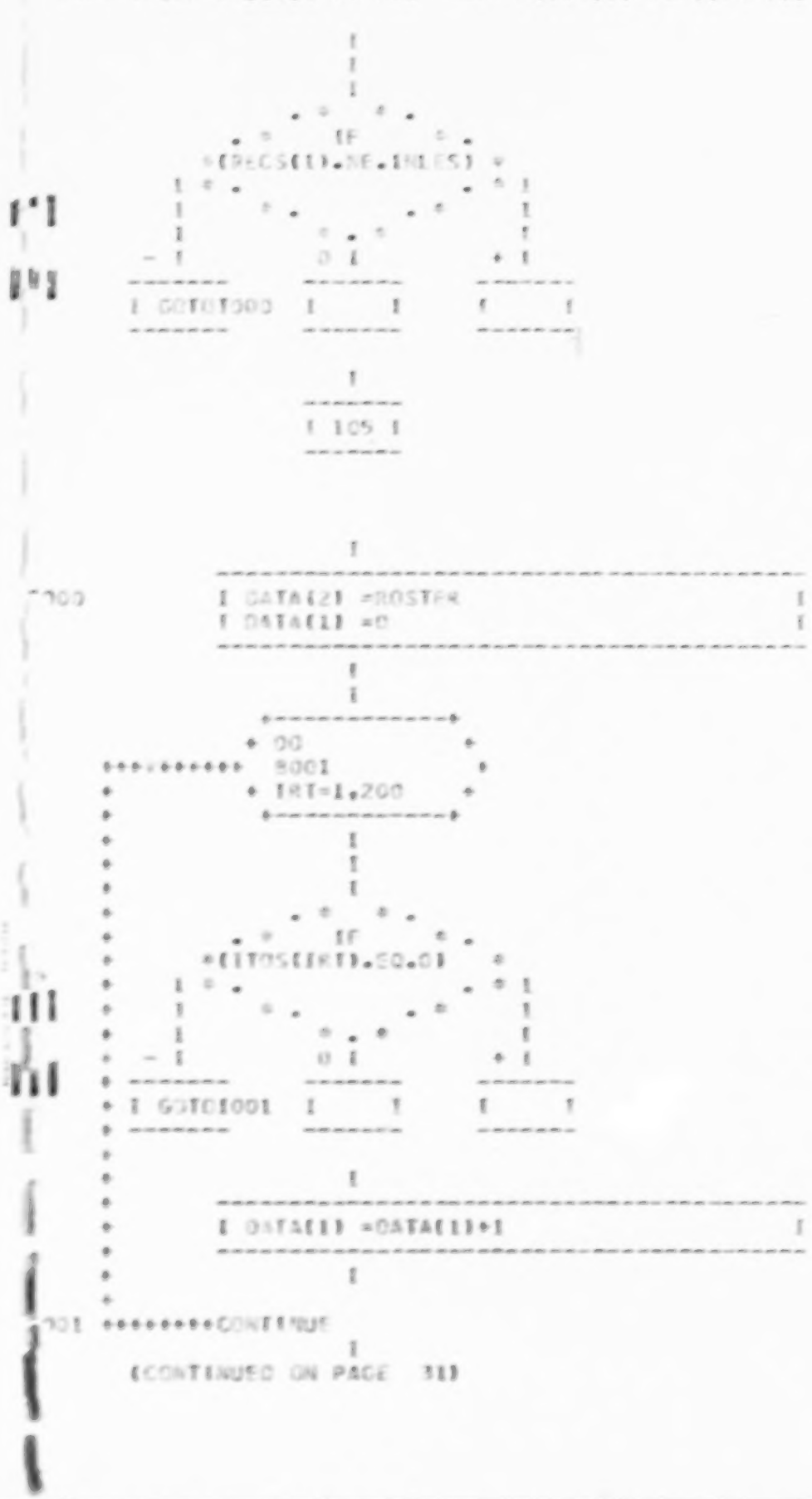

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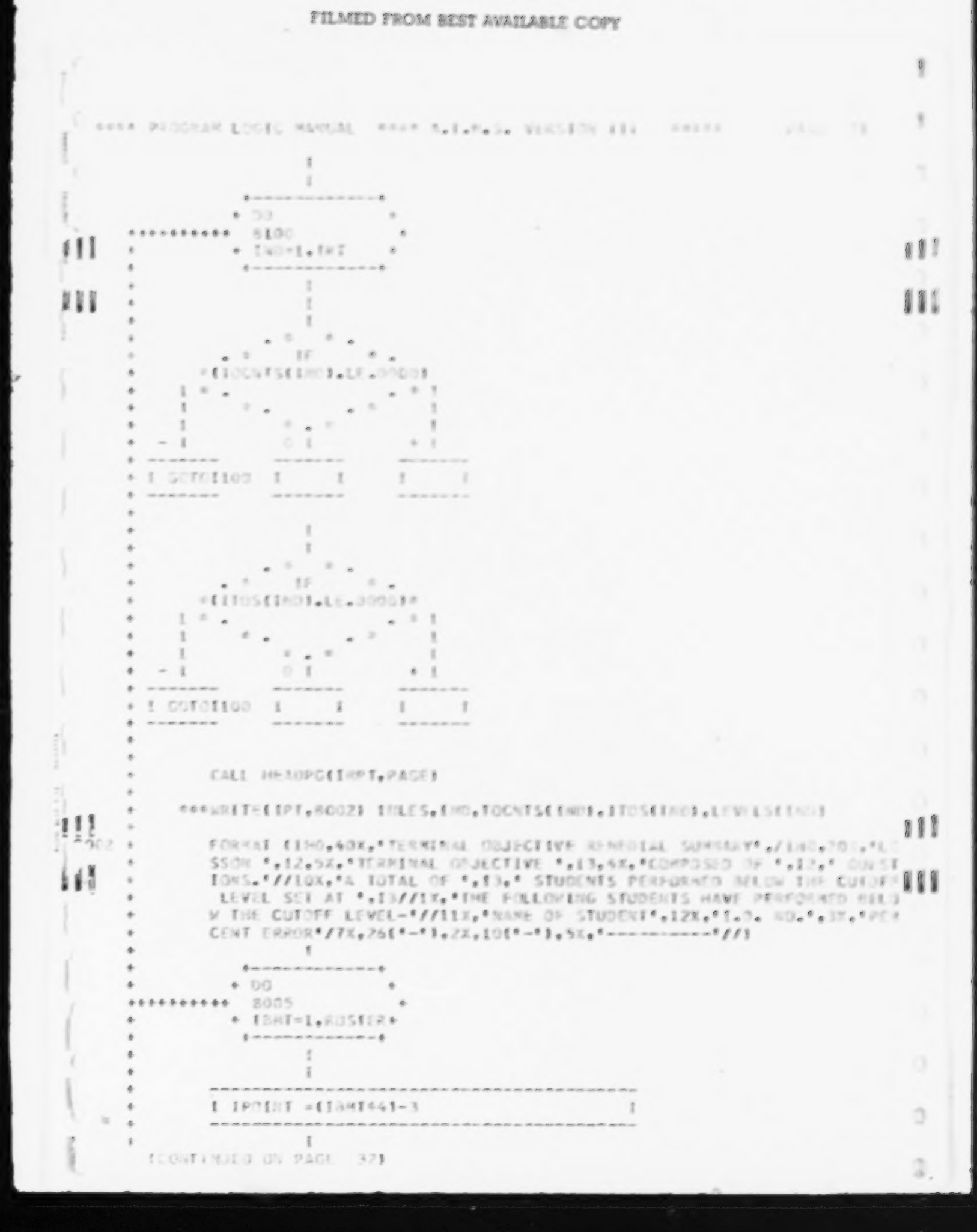

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```
4 ********! LOC[I,J] =!TEMP[J]                                    !
          !                                                       !
          !                                                       !
          !CONTINUED ON PAGE  341                                 !
```

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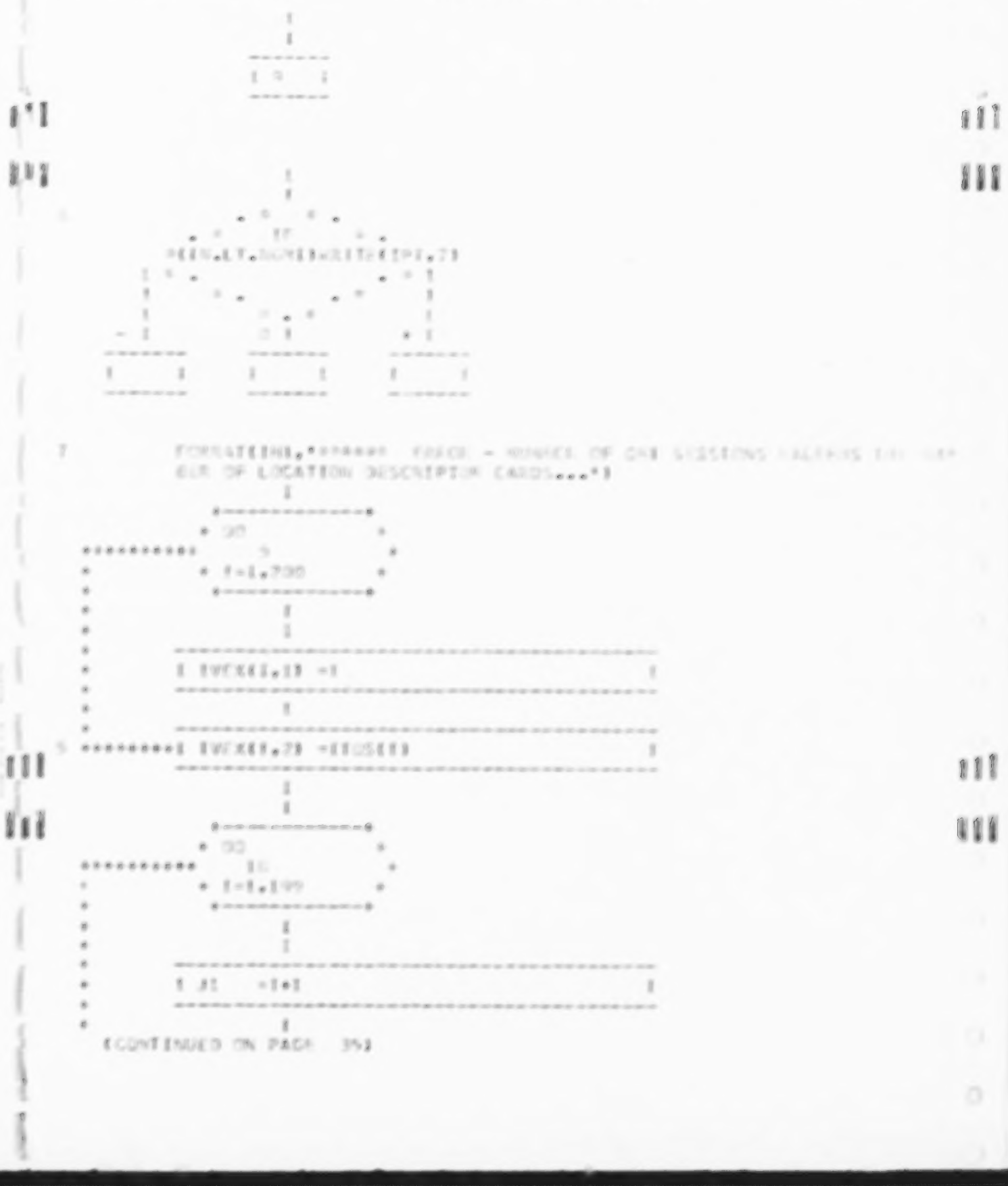

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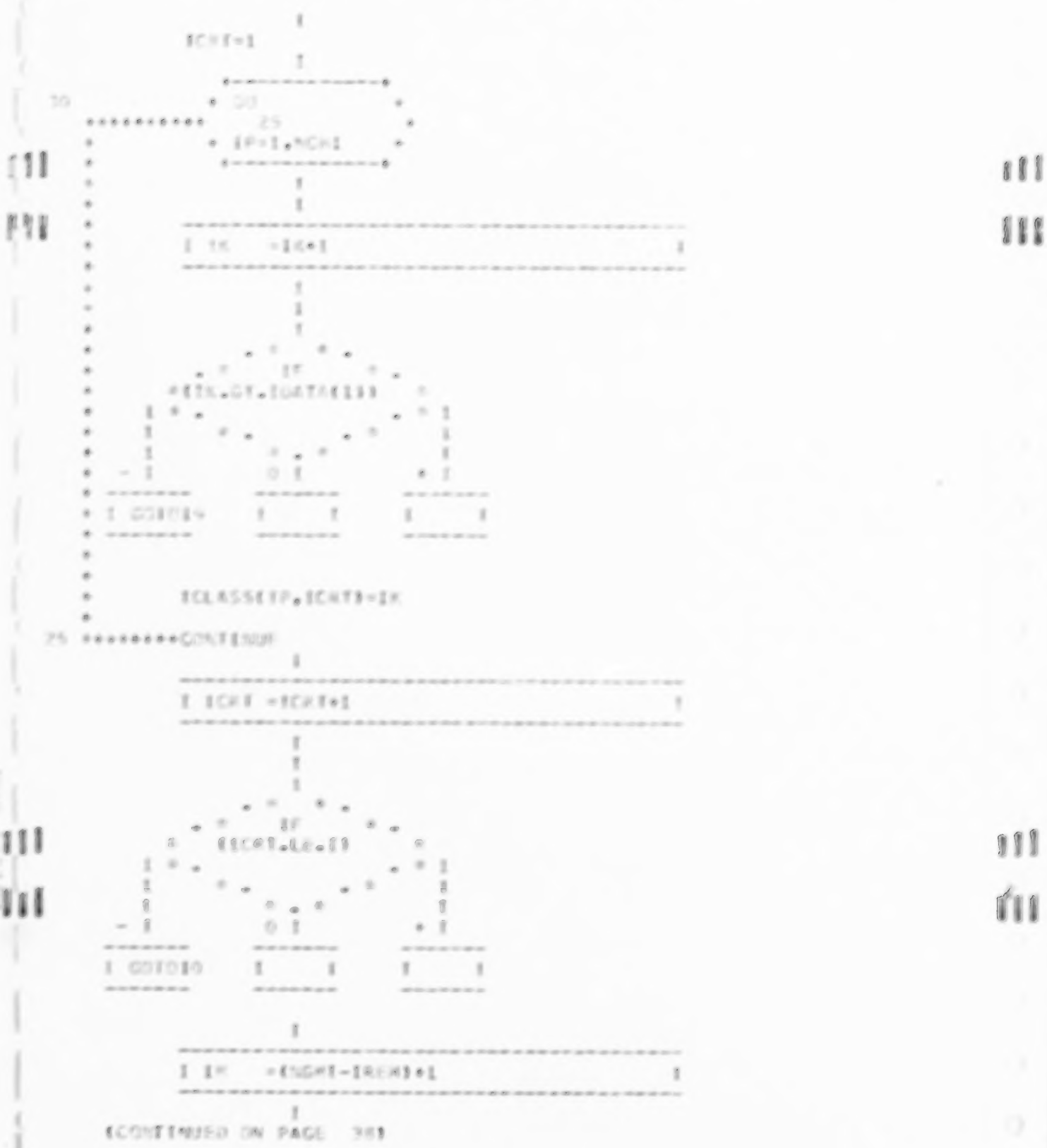

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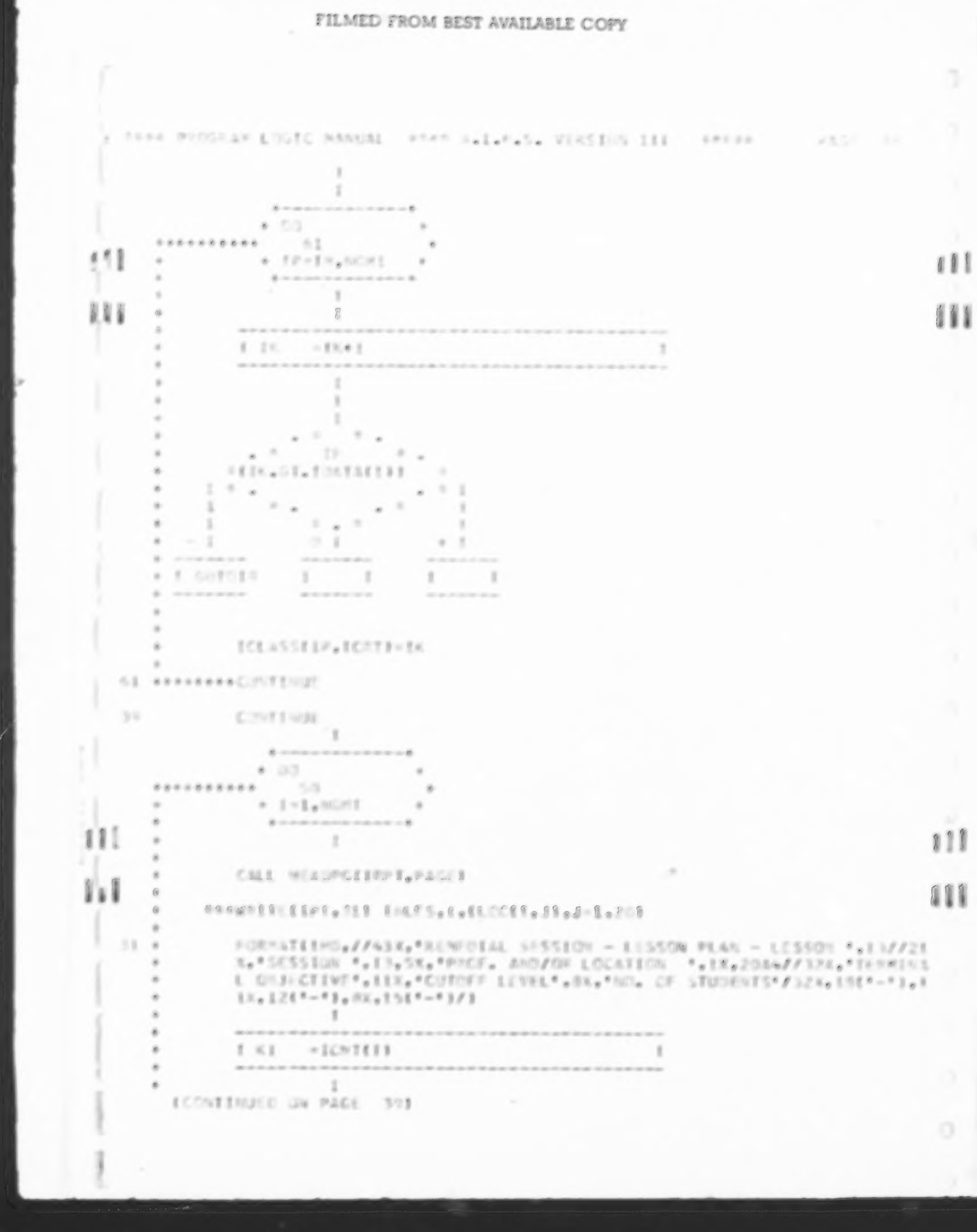

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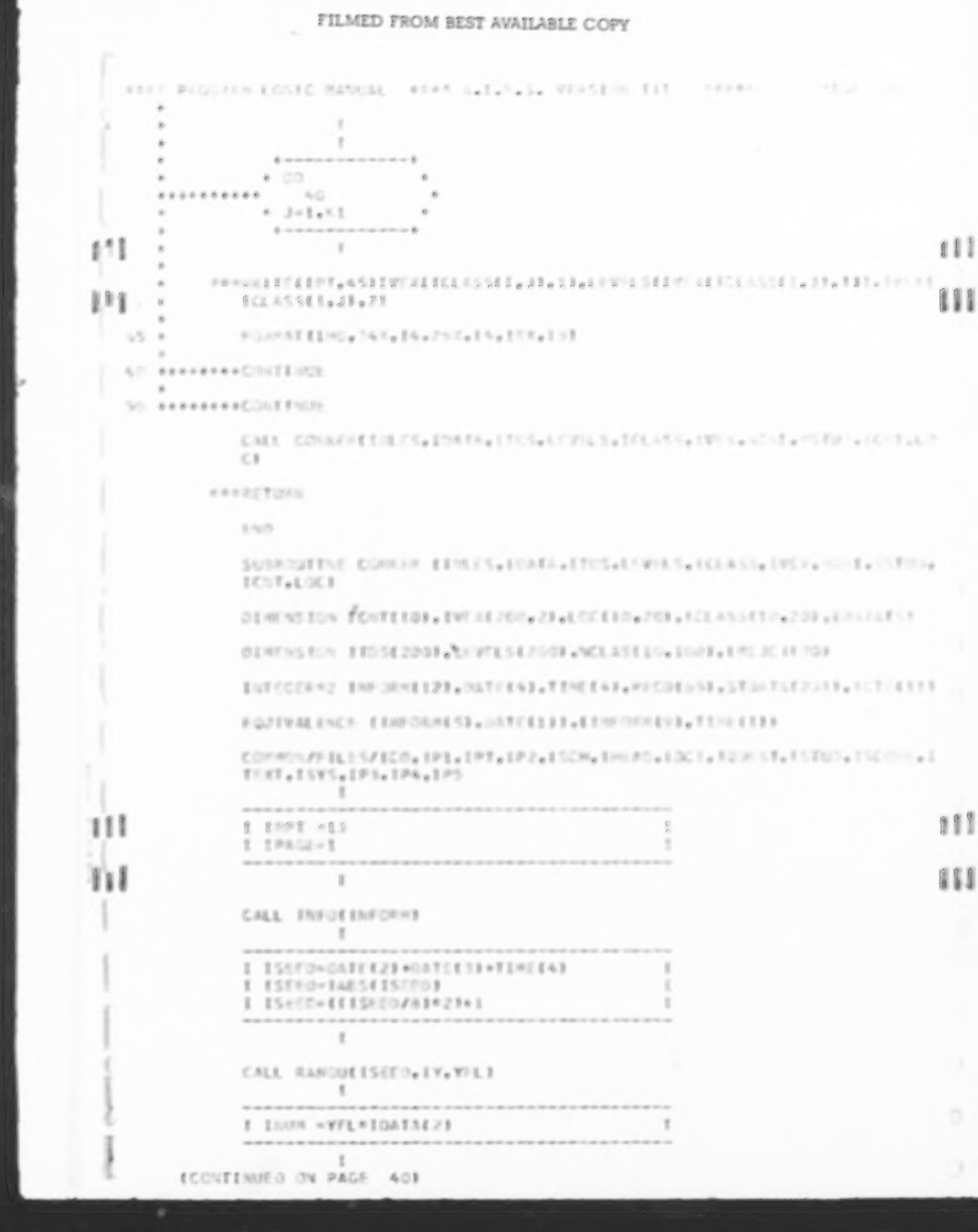

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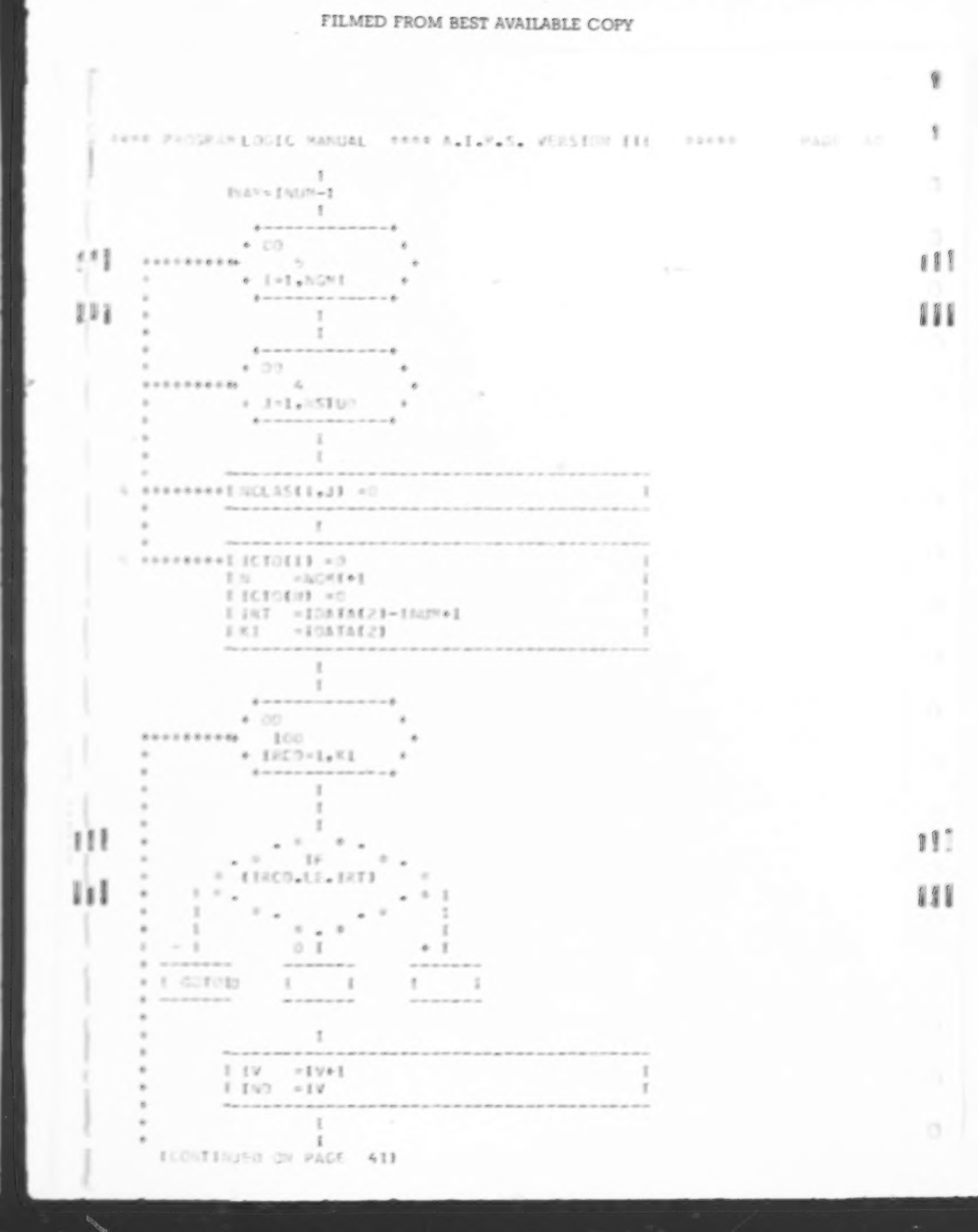

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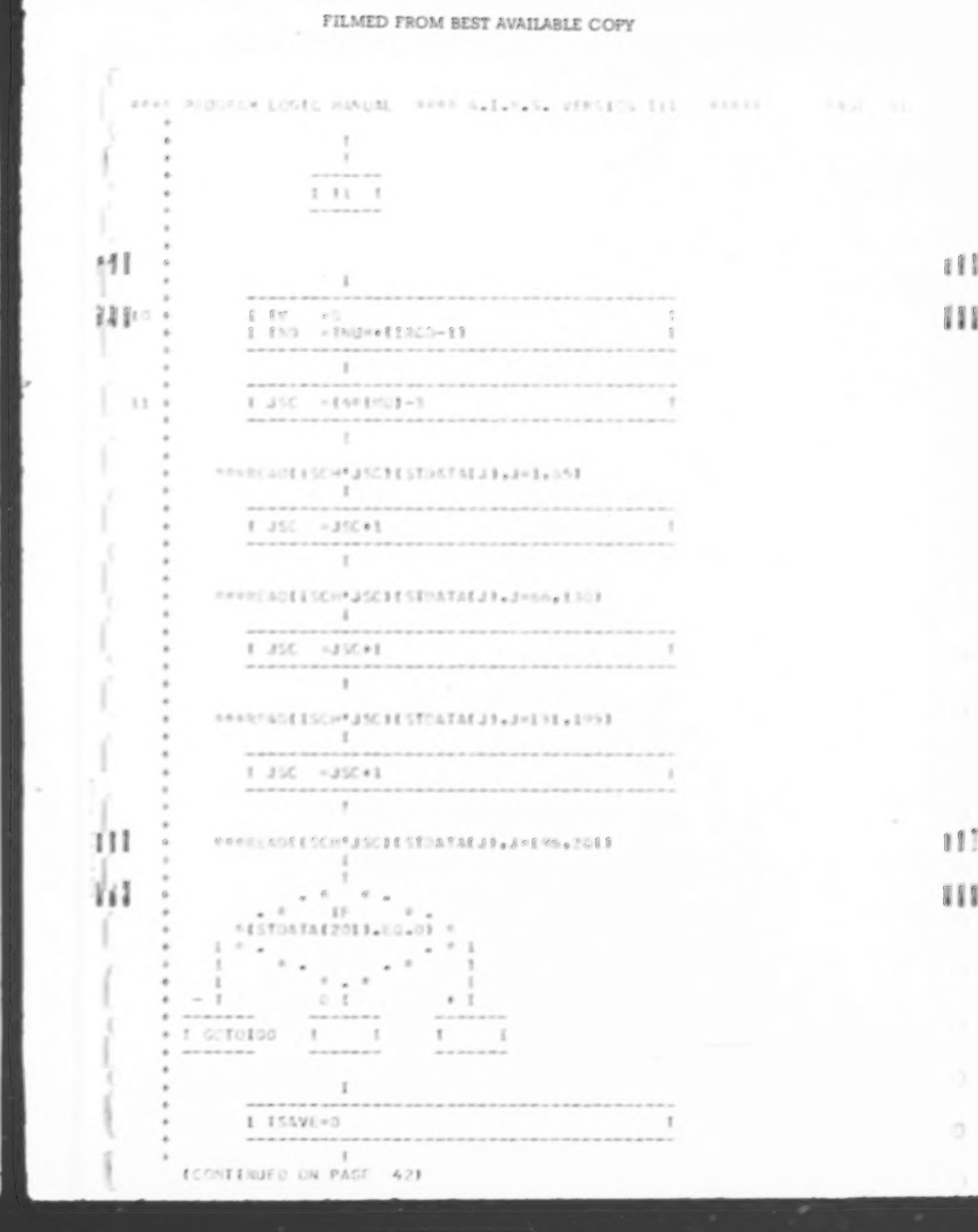

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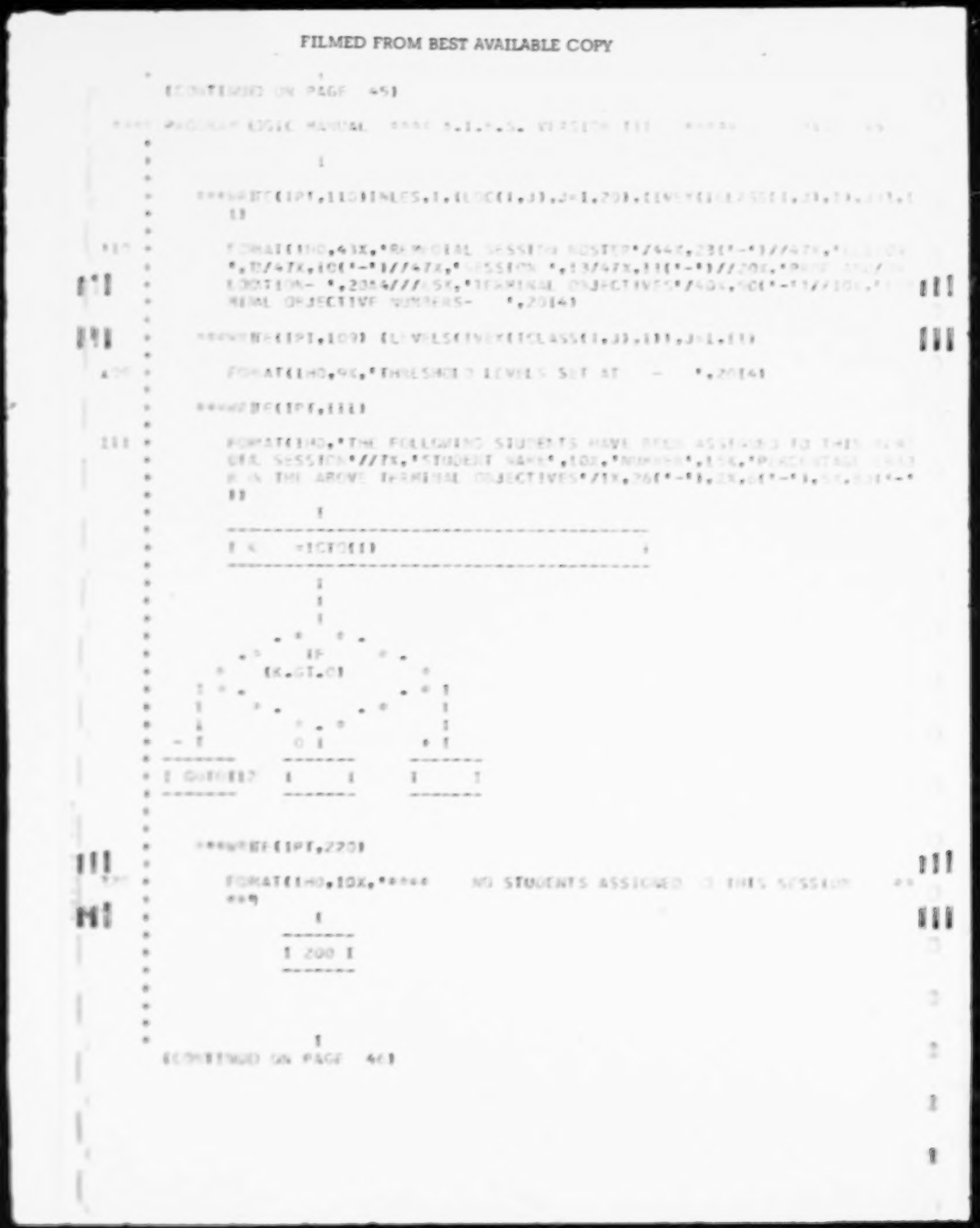

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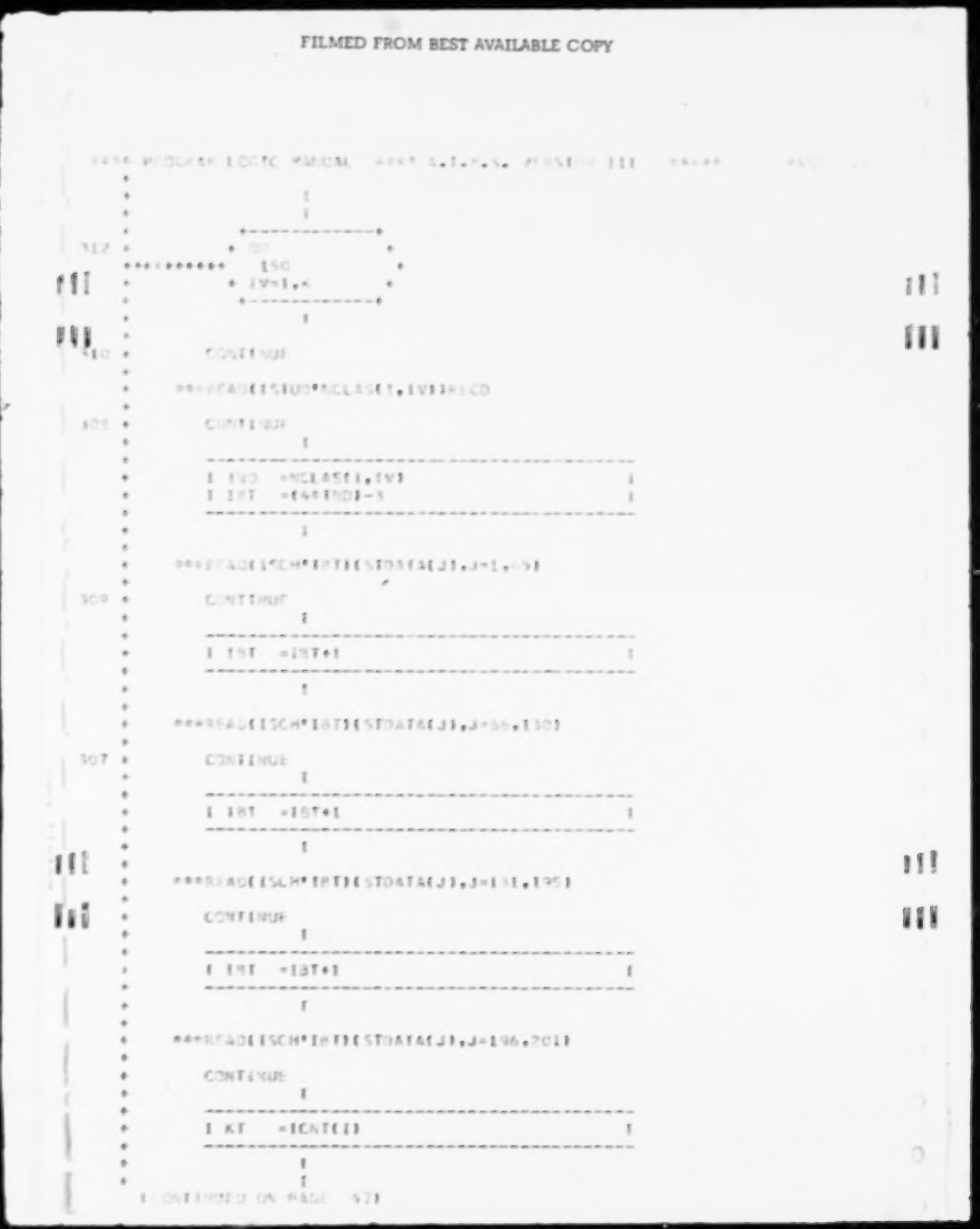

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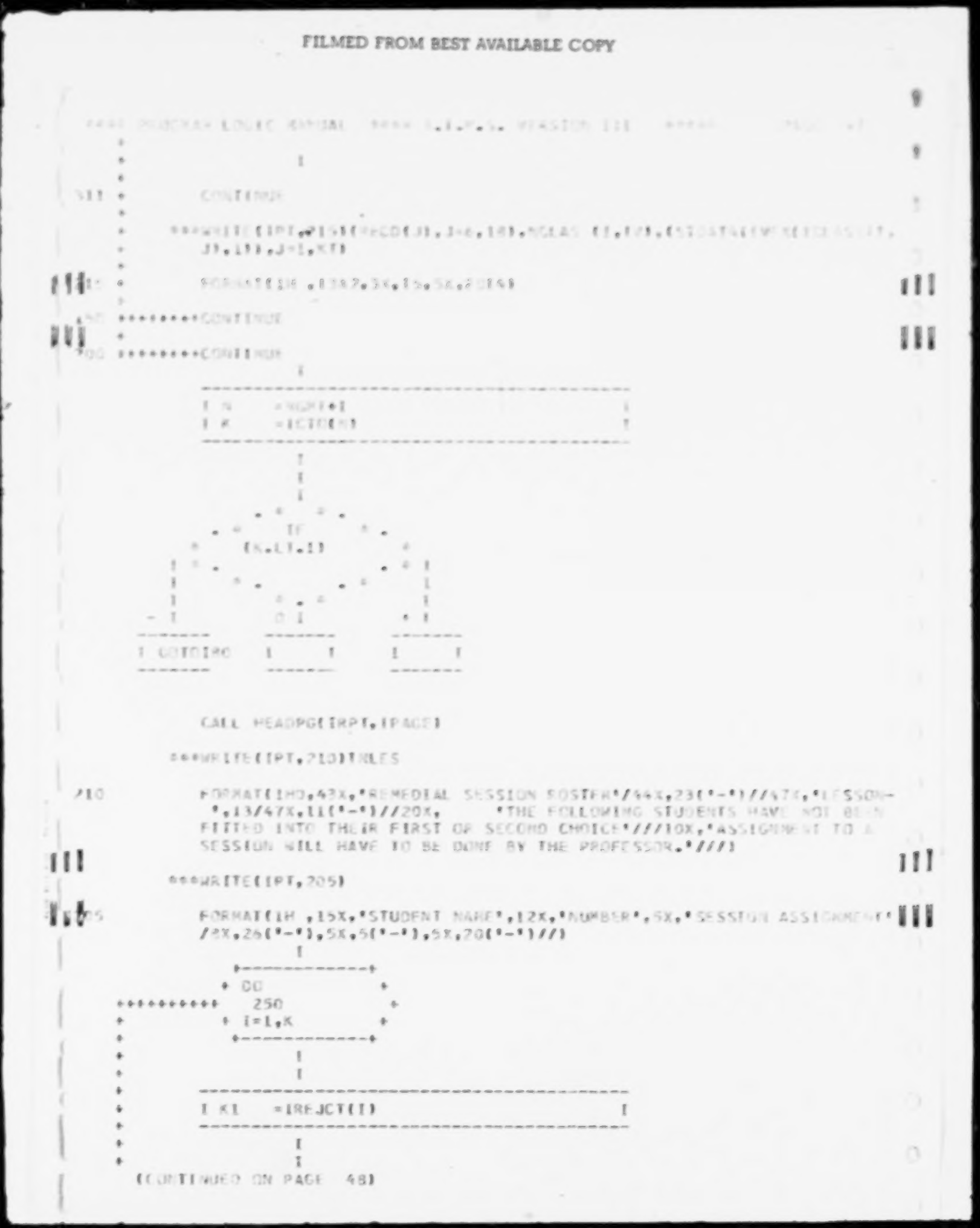

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```
**** PROGRAM LOGIC MANUAL  **** S.I.P.S. VERSION III  ****  PAGE 00

      *
      *                  !
      *
      *     ***READ(1'STUD'*1) NFCO
      *
      *     ***WRITE(IPT,211)(PCOD(J),J=1,10),PROJCT(I)
      *
      *        FORMAT(1H ,7X,I7A2,5A,I5)
      *
***** ********CONTINUE
      *
      ***RETURN

            END

            SUBROUTINE REPII

            IMPLICIT INTEGER*2(R)

            INTEGER*2 CRNM(6),TP(5),RP,LN,ST,SC,NINFIL,NINCRS

            INTEGER*2 RESREC(65),RVOL,RCSN,RSG,RTP

            INTEGER*2 STOBCK(65),OUTCHK(10),STOWNT(11)

            INTEGER IOTP(3/,INPTC/1/,IALSPT/4/,IAINSY/12/,ISTAMS/9/

            INTEGER OUTPUT(2)/'SUB.','NO/S'/

            INTEGER*2 CSN

            EQUIVALENCE (RVOL, RESREC(1)) , (RCSN,RESREC(2)),(RSG,RESREC(3))

            EQUIVALENCE (RTP,RESREC(4)),(STOWNE(1),STOBCK(6)),(CSN,STOBCK(2))

            EQUIVALENCE (KDROP, STOBCK(24))
                        I
            ------------------------------------------
            I IPGF =1                                  I
            I IRPT =11                                 I
            ------------------------------------------
                        !
      ***READ(IAIMSY'1) NINFIL,NINCRS

      ***READ(INPTC,10) RP,LN,ST,SC,(TP(K),K=1,5),(CRNM(K),K=1,6)

   10       FORMAT(12,7X,3I2,5I1,9X,6A2)

 9070       CONTINUE

            CALL SUBMIT(TP,ST)
                        I
            ------------------------------------------
            I ERRD=0                                   I
            I KSTO =1                                  I
            ------------------------------------------
                        !
                        1
     (CONTINUED ON PAGE  43)
```

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```
                    I
 310      ***READ(IRPT,END=2000) RECSEC
                    I
                    I
                  IF
          (LN-2)GE.1)
        I     I     I
        I     I     I
        I     I     I
  -     I     0     +     I
 -------     -------     -------
 I 2030I     I 2020I     I 2010I
 -------     -------     -------

 320      CONTINUE

          CALL CHECK(RECSN,RIP,RSG)
                    I
                 -------
                 I 2010I
                 -------


                    I
          ------------------------------------------
 330      I ERRRD=-1                               I
          ------------------------------------------
                    I

          BACKSPACE IRESPT

 300      CONTINUE
                    I
          ------------------------------------------
          I KPGE =(NIMFIL/45)+1                    I
          ------------------------------------------
                    I
                    I
                 +-------------+
                + DO            +
     +++++++++  3000             +
     +          + KOZ=1,KPGE     +
     +           +-------------+
     +                 I
     +
     +       CALL HEADPG(IRPT,IPGE)
     +
     +    ***WRITE(IOTPT,510)
     +
 510 +       FORMAT(  45X,'*** VOLUME SUBMITTAL REVIEW ***')
     +
     +    ***WRITE(IOTPT,515) (CRNM(K),K=1,6),LN
     +                 I
       (CONTINUED ON PAGE  50)
```

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```
      *
      *                  I
      *
 515  *        FORMAT( /,40X,'COURSE: ',6A2,5X,'VOLUME NO.  ',I3)
      *
      *     ***WRITE(IOTPT,550)
      *
 540  *        FORMAT(/,25X'NOTE:  XX/S - SIGNIFIES THAT STUDENT DID NOT SUBMIT
      *        ATERIALS FOR PROCESSING',
      *        /,31X'SUB. - SIGNIFIES THAT STUDENT DID SUBMIT MATERIALS FOR PROC
      *        SSING',/)
      *
      *     ***WRITE(IOTPT,560)
 550  *        FORMAT  (10X,'STUDENT',15X,'CSN  PRE.',4(4X,'STUDY'),
      *        '  ASSIGN    HOME    POST',/,
      *        37X,'TEST   QUE(1)  QUA(2)  QUE(3)  QUE(4)  QUE(5)',
      *        11X,'WORK    TEST')
      *                  I
      *              +-------------+
      *            + DO            +
      ++++++++++    3010          +
      *           + K03=1,45       +
      *            +-------------+
      *                  I
      *
      *     ***READ(ISTONK'KSTO)STOBCA
      *                  I
      *                  I
      *               . + .  + .
      *           . +     IF      + .
      *         +  (KUKUP.EQ.1)       +
      *     1 + .                   . + I
      *     I       + .         . +     I
      *     I           + . +           I
      *   - I           0 I           + I
      *  -------       -------       -------
      *  I GOTO1030  I     I       I     I
      *  -------       -------       -------
      *
      *
      *        CALL GETCHK(CSN,OUTCHK)
      *        WRITE(IOTPT,570) (STONME(K1),K1=1,13),CSN,(OUTPUT(OUTCHK(K2)),
      *        K2=1,9)
      *                  I
      *                -------
      *                I 1070I
      *                -------
      *
      *
      *
      *
 1030 *     ***WRITE(IOTPT,540)(STONME(K1),K1=1,13),CSN
      *                  I
        (CONTINUED ON PAGE  51)
```

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```
 520          FORMAT(1X,12A2,A1,6X     ,I3,2A,9(A4,4X))
 540          FORMAT(1X,12A2,A1,6X,I3,'   STUDENT DROPPED')
 999       ***RETURN
```

(CONTINUED ON PAGE 52)

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(CONTINUED ON PAGE 53)

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```
1000 ********CONTINUE
     *
 000 ********CONTINUE

  10         FORMAT(I2,27X,6A2)

 510         FORMAT(1X,12A2,A1,5X,5A2,5X,I4)

 520         FORMAT(35X,'*** CLASS ROSTER ***',/,35X,'COURSE: ',6A2,//)

 530         FORMAT(10X,'STUDENT',14X,'ACADEMY',8X,'COURSE',/,33X,'NO.',10X,
             'STD.NO.')

          ***RETURN

             END

             SUBROUTINE REP14

             IMPLICIT INTEGER*2 (K)

             INTEGER*2 RLN,ERRG

             INTEGER*2 NINFIL,NINCRS

             INTEGER*2 CRNM(6),TP(5),TF

             INTEGER*2 RP,LN,ST,SC,CTOT,EM,JSTD,KORDP,TESTCT,STDNO

             INTEGER*2 STDNME(13),OUTPUT(13)

             EQUIVALENCE (JSTD,STDNO)

             INTEGER INPTC/1/,IOTPT/3/,IRESPT/4/,IAIMSY/12/
```

(CONTINUED ON PAGE 54)

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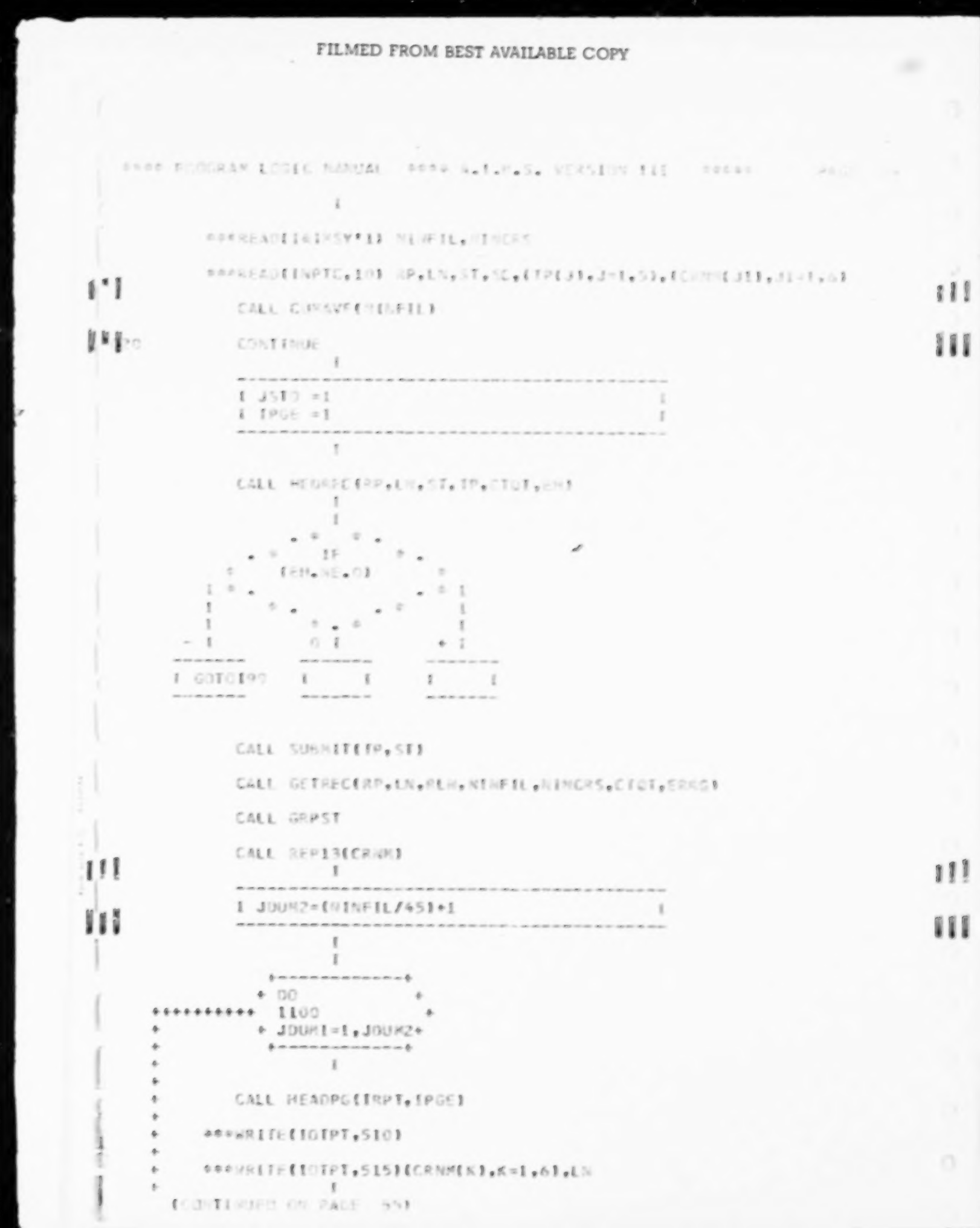

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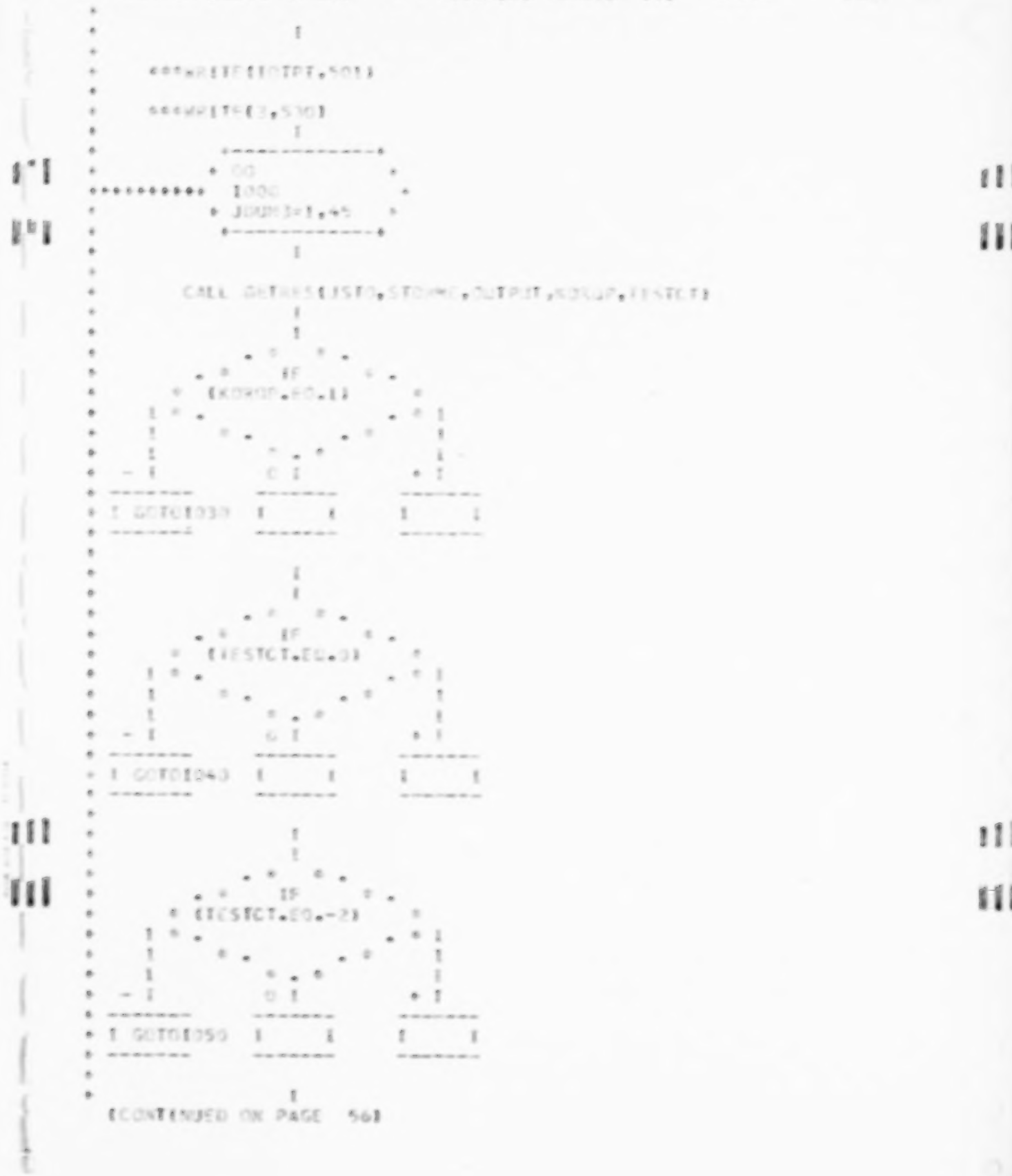

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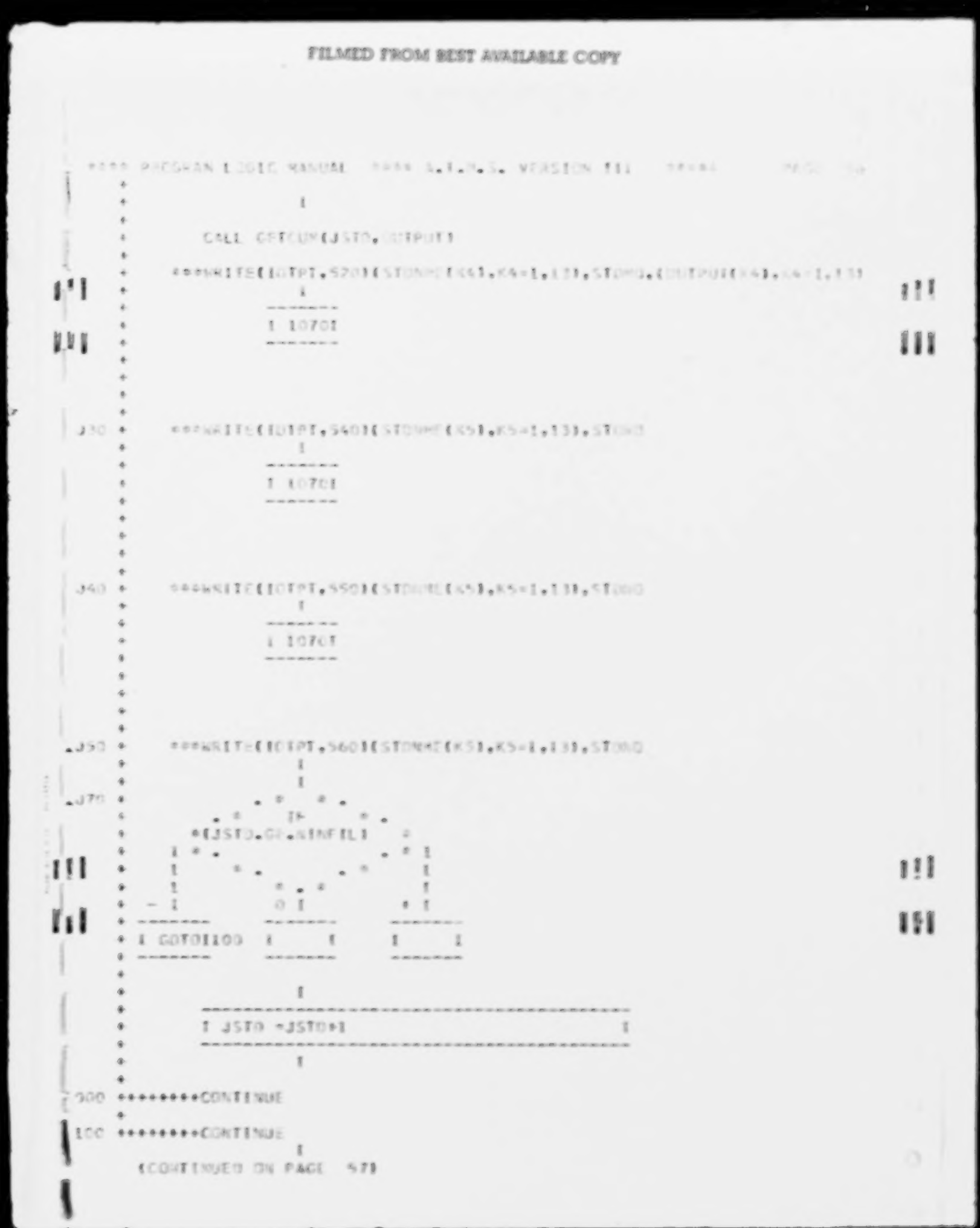

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```
                CONTINUE

                CALL OUTCOMPLN,CRNN)

  10            FORMAT(17,7X,3I7,5I6,9X,A2)

  17            FORMAT(A2X,I2)

  14            FORMAT(I2X,I5)

 901            FORMAT(1H0)

 910            FORMAT( 34X,'### INDIVIDUAL VOLUME STATISTICS ###')

 915            FORMAT( 35X,'COURSE: ',A2,10X,'VOLUME NO. ',I3)

 920            FORMAT(1X,12A7,A1,4X      ,I3,13(2X,I4,'.'))
 930            FORMAT( 53X,'ABS.   REL.',10X,'POST',10X,'ABS.   REL.   CM.AV. '
                'CM.AV. CM.AV. CM.AV.'/
                10X'STUDENT',17X,'CSN  CAPA.  PERF.  PERF.  PERF.  PROB.  TEST'
                ,'   WT    ACH.    ACH.    PROB.  PT.TS.  NET    REL.'/
                34X,'INDEX  INDEX  DEV.    DEV.    ACH.    ACH.    ACH.    DEV.   '
                'DEV.    ACH.    ACH.    ACH.    ACH.DEV.')

 940            FORMAT(1X,12A7,A1,84,I3,6X,'STUDENT DROPPED')
 950            FORMAT(1X,12A7,A1,84,I3,6X,'THIS STUDENT DOES NOT HAVE ANY TESTS O
                R MATERIALS TO BE PROCESSED')
 960            FORMAT(1X,12A7,A1,84,I3,6X,'THIS STUDENT HAS INSUFFICIENT MATERIAL
                S TO BE PROCESSED')
                      !
      (CONTINUED ON PAGE  58)
```

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```
                    I
999       ***RETURN
             END
             SUBROUTINE CUMAVE(NF)
             INTEGER*2 OUTPUT(13),CUMSL(4),CUMNL(4),NF,CSN
             INTEGER*2 LN,CRMM(5)
             INTEGER INPTC/1/,ISCRAT/5/,IPUNH/2/
          ***READ(INPTC,15) LN
 15          FORMAT(70X,I3)
                    I
              +-------------+
             + DO            +
 **********   1000            +
 +           + KCSN=1,NF     +
 +            +-------------+
 +                  I
 +
 +        ***READ(INPTC,10) CSN,(CUMSL(K),CUMNL(K),K=1,4)
 +
 10 +        FORMAT(I3,4(I5,I3))
 +                  I
 +           ----------------------------------------
 +           I JSN  =CSN/1                          I
 +           ----------------------------------------
 +                  I
 +
 +        ***WRITE(ISCRAT'JSN) CSN,(CUMSL(K),CUMNL(K),K=1,4)
 +
1000 ********CONTINUE
          ***RETURN
             ENTRY GETCUM(CSN,OUTPUT)
                    I
             ----------------------------------------
             I JSN  =CSN/1                          I
             ----------------------------------------
                    I
          ***READ(ISCRAT'JSN) CSN,(CUMSL(K),CUMNL(K),K=1,4)
                    I
              +-------------+
             + DO            +
 **********   2000            +
 +           + K=1,3         +
 +            +-------------+
 +                  I
 +                  I
 +           ----------------------------------------
 +           I CUMSL(K) =CUMSL(K)+OUTPUT(K+4)       I
 +           ----------------------------------------
```

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(CONTINUED ON PAGE 59)


```
      +
      +                  I
      +        CUMNL(K)=CUMNL(K)+1
      +
2000  ********CONTINUE
                         I
                ------------------------------------------
                I CUMSL(4) =CUMSL(4)+OUTPUT(9)           I
                I CUMNL(4) =CUMNL(4)+1                   I
                ------------------------------------------
                         I
                         I
                   +-------------+
                  + DO            +
      **********   2010            +
      +           + K=10,13        +
      +            +-------------+
      +                  I
      +                  I
      +        ------------------------------------------
      +        I OUTPUT(K) =CUMSL(K-2)/CUMNL(K-9)       I
      +        ------------------------------------------
      +                  I
      +
2010  ********CONTINUE

           ***WRITE(ISCRAT'JSM) CSN,(CUMSL(K),CUMNL(K),K=1,4)

           ***RETURN

              ENTRY OUTCUM(LN,CRNM)

           ***WRITE(IPUNH,20)(CRNM(K1),K1=1,6),LN
  20          FORMAT(' HEADER RECORD FOR CUM. AVE. REPORT 14 COURSE,',6A2,
              ' VOLUME NO. ',I3)
                         I
                   +-------------+
                  + DO            +
      **********   3000            +
      +           + JNF=1,NF       +
      +            +-------------+
      +                  I
      +
      +     ***READ(ISCRAT'JNF) CSN,(CUMSL(K),CUMNL(K),K=1,4)
      +
      +     ***WRITE(IPUNH,10) CSN,(CUMSL(K),CUMNL(K),K=1,4)
      +
3000  ********CONTINUE

           ***RETURN

              END

              SUBROUTINE GETREC(RP,LN,RLN,NF,NC,CTOT,EC)

              INTEGER*2 RP,NF,NC,CTOT,LN

              INTEGER*2 OS(185,11),OC(185)
                         I
        (CONTINUED ON PAGE 60)
```

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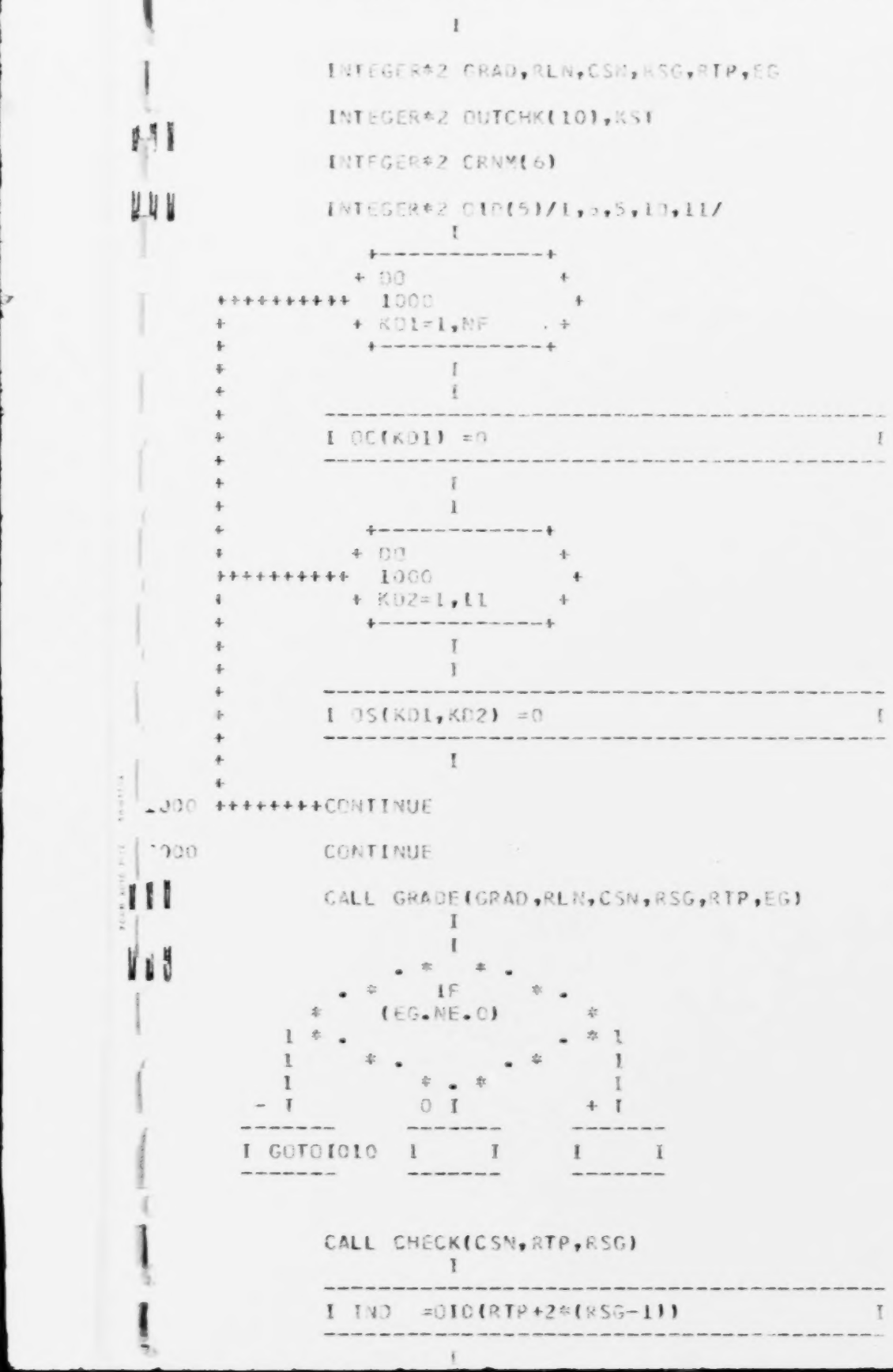

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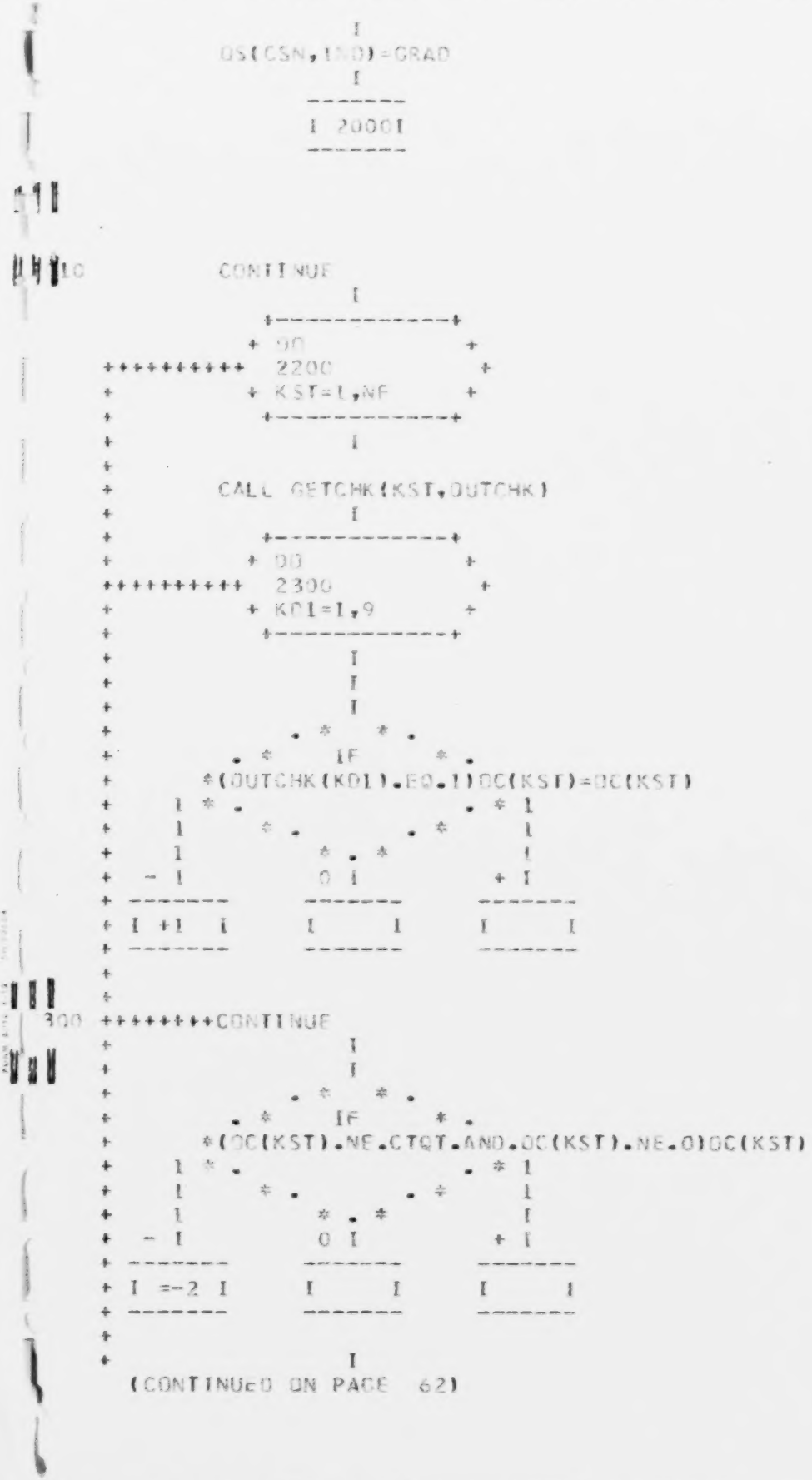

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```
     +
     +                    I
     +
 200 +++++++++CONTINUE
 10          FORMAT(1X,20I6)
 999       ***RETURN
           ENTRY GRPST
           INTEGER   GRPSTT(7,4),JD(7)
           INTEGER*2 STDNME(185,13),STDBCK(65),SM(13),CAPIN,STDNO
           EQUIVALENCE (STDNO,STDBCK(2)),(CAPIN,STDBCK(25)),(SM,STDBCK(6))
                     I
           ----------------------------------------
           I WT   =3                               I
           I NGRPC=0                               I
           ----------------------------------------
                     I
                     I
                +-------------+
               + DO            +
     ++++++++++  3000            +
     +         + NGT=1,7         +
     +          +-------------+
     +                I
     +                I
     +       ----------------------------------------
     +       I GRPSTT(NGT,1) =1000                   I
     +       I GRPSTT(NGT,2) =0                      I
     +       I GRPSTT(NGT,3) =-1000                  I
     +       I GRPSTT(NGT,4) =0                      I
     +       ----------------------------------------
     +                I
     +
 300 +++++++++CONTINUE
                      I
           ----------------------------------------
           I IBCK =9                               I
           ----------------------------------------
                     I
                     I
                +-------------+
               + DO            +
     ++++++++++  2110            +
     +         + K9=1,NF         +
     +          +-------------+
     +                I
     +
     +    ***READ(IBCK'K9)STDBCK
     +                I
```

(CONTINUED ON PAGE 63)

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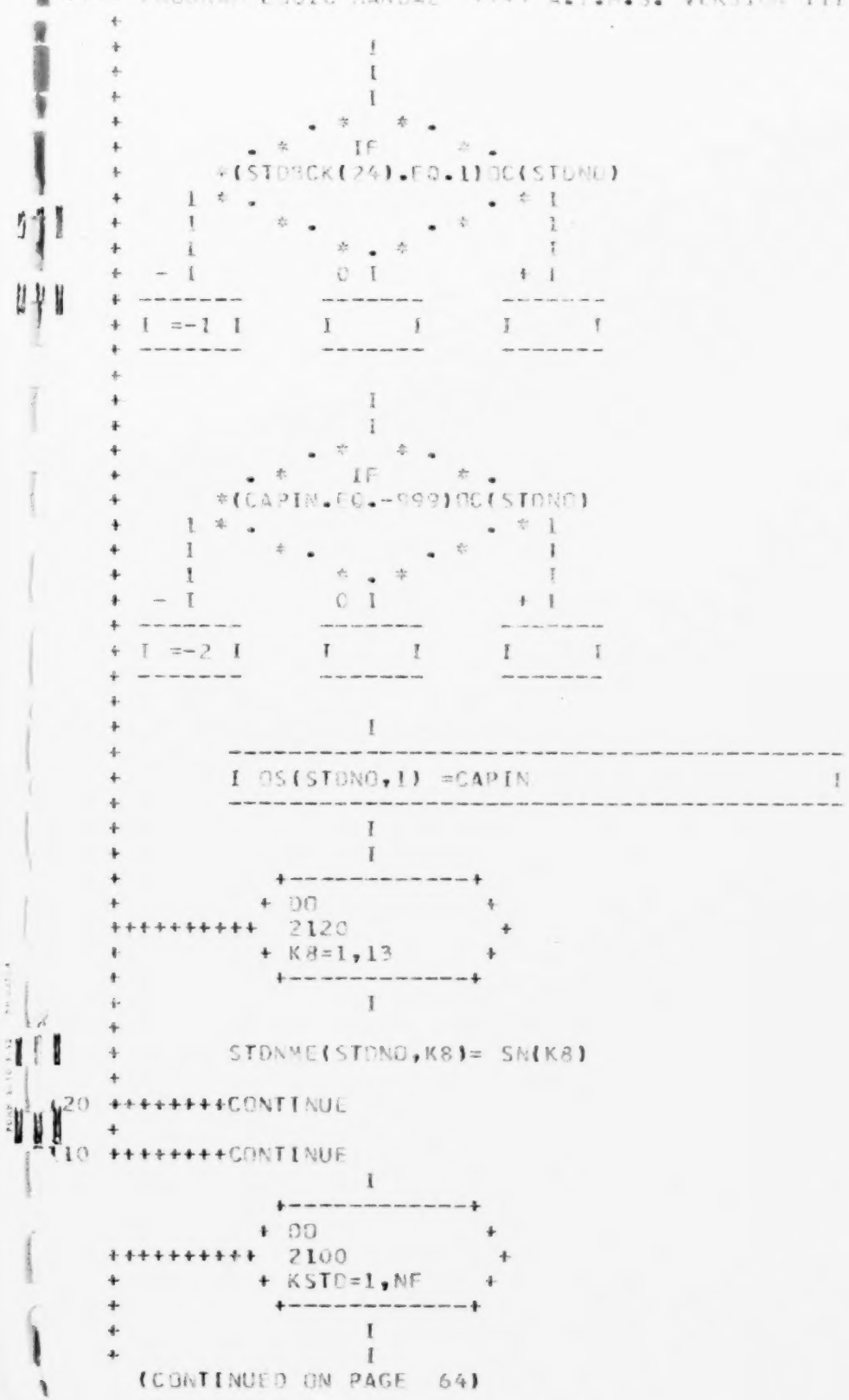

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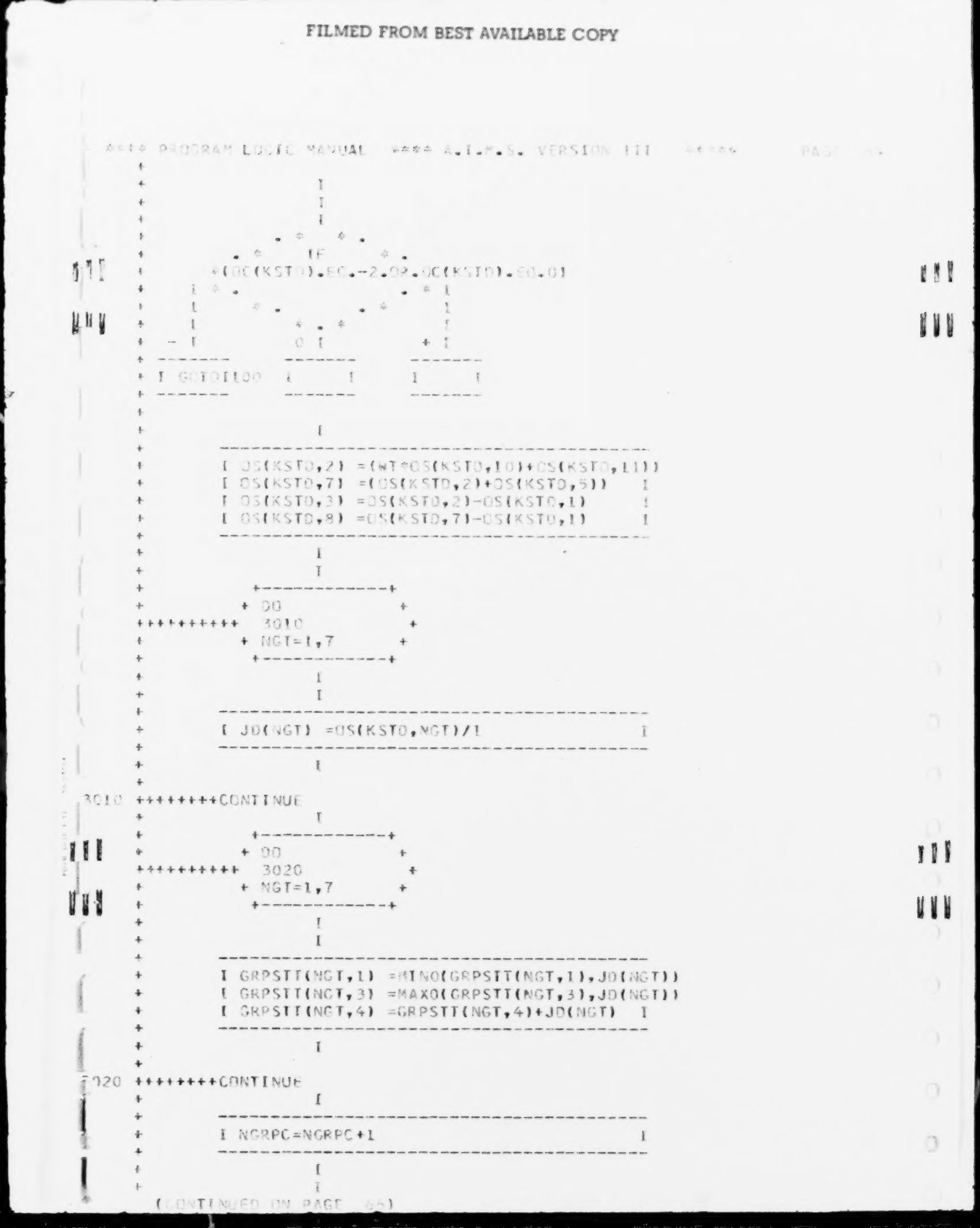

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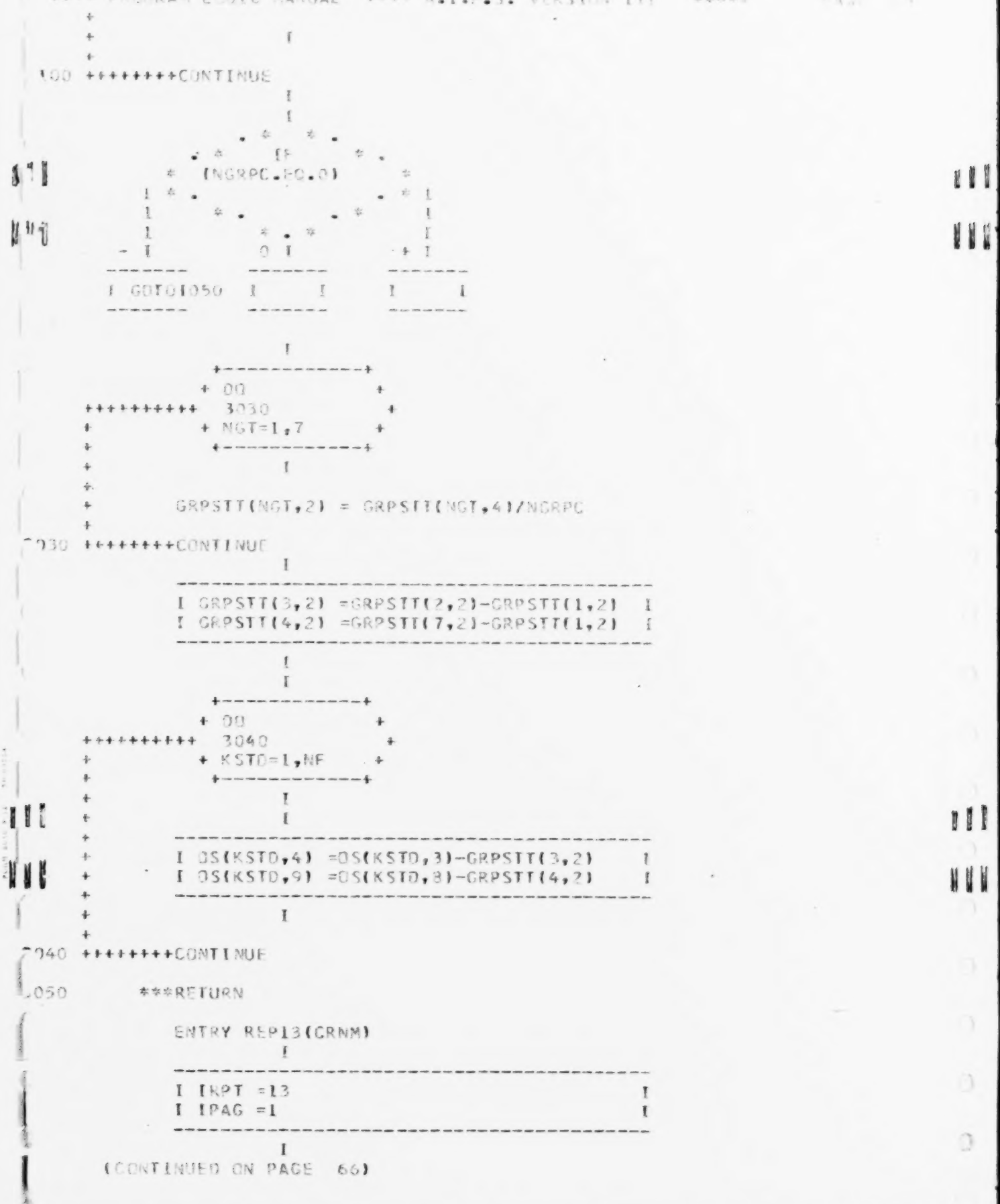

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```
                    I
              IOTPT=3

              CALL HEADPG(IRPT,IPAG)

          ***WRITE(IOTPT,510)(CRNME(K),K=1,6),LN
  510     FORMAT(20X,'*** VOLUME STATISTICS ***',/,10X,'COURSE ',6A2,
              10X,'VOLUME NO.  ',I3,//,23X,'MINIMUM',07X,'MEAN',08X,'MAXIMUM')
          WRITE(IOTPT,520) (GRPSTT(1,KD),KD=1,3),
                           (GRPSTT(2,KD),KD=1,3),
                            GRPSTT(3,2),
                           (GRPSTT(5,KD),KD=1,3),
                           (GRPSTT(6,KD),KD=1,3),
                            GRPSTT(7,2),
                            GRPSTT(4,2)
  520     FORMAT(1X,'CAPABILITY INDEX',          T26,3(I3,13X),/,
                 1X,'PERFORMANCE INDEX',         T26,3(I3,10X),/,
                 1X,'PERFORMANCE DEVIATION',     T39,I3,/,
                  1X'PROBLEM ACHIEVEMENT'        T26,3(I3,10X),/,
                  1X'POST TEST ACHIEVEMENT',     T26,3(I3,10X),/,
                 1X,'NET ACHIEVEMENT INDEX',     T39,I3,/,
                 1X,'ACHIEVEMENT DEVIATION',     T39,I3)

          ***RETURN

              ENTRY GETRES(JSTD,SM,OUTPUT,KDROP, TESTCT)

              INTEGER*2 OUTPUT(13),JSTD,KDROP,TESTCT,SM(13)
                    I
                 +-------------+
                + DO            +
     +++++++++  4000             +
     +          + K1=1,9         +
     +           +-------------+
     +                 I
     +                 I
     +        ----------------------------------------
     +        I OUTPUT(K1) =GS(JSTD,K1)               I
     +        ----------------------------------------
     +                 I
     +
  4000 ++++++++CONTINUE
                    I
                 +-------------+
                + DO            +
     +++++++++  4010             +
     +          + K1=1,13        +
     +           +-------------+
     +                 I
     +                 I
     +        ----------------------------------------
     +        I SM(K1) =STDNME(JSTD,K1)               I
     +        ----------------------------------------
     +                 I
     +
  5010 ++++++++CONTINUE
                    I
              ----------------------------------------
              I KDROP=0                               I
```

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```
                    I
                    I
                    I
                  . * .
                . *   * .
              . *  IF    * .
            *(QC(JSTD).EQ.-1)  *
          I * .                . * I
          I     * .          . *     I
          I         * . * .           I
        - I           0 I             + I
        -------       -------         -------
        I KQROT=1     I     I         I     I
        -------       -------         -------

                          I
                ------------------------------------------
                I ITESTCT =QC(JSTD)                      I
                ------------------------------------------
                          I

           ***RETURN

              END

              SUBROUTINE GRADE(GRAD,RLN,CSN,RSG,RTP,EG)

              IMPLICIT INTEGER*2 (K)

              INTEGER FILES(5)/12,6,8,4,0/,IRESPT/4/,IQTPT/3/

              INTEGER*2 HQRC(12,48),HR(65),RESPR(65),ANS(48),NUMQT(12),TP(5)

              INTEGER*2 GRAD,CSN,RSG,RTP,EG,LN,ST,CTQT,EH,RLN

              INTEGER*2 COUNT,TPE,QNO,RIGHT,ITEST,SG,SM

              INTEGER*2 SUBGRD,SUMGRD,NUMRSP(12),HQRCD(48)

              EQUIVALENCE (RESPR(18),ANS(1)),(QNO,HR(13))
                          I
                ------------------------------------------
                I EG    =0                               I
                I GRAD  =0                               I
                I COUNT=0                                I
                ------------------------------------------
                          I

000        ***READ(IRESPT,END=9999)RESPR
                          I
                ------------------------------------------
                I RLN   =RESPR(1)                        I
                ------------------------------------------
                          I
                          I
        (CONTINUED ON PAGE  68)
```

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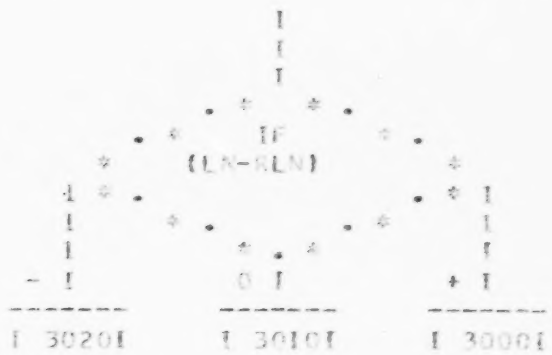


```
J10          CONTINUE
                  I
             ----------------------------------------
             I CSN  =RESPR(2)                       I
             I RSG  =RESPR(3)                       I
             I RTP  =RESPR(4)                       I
             I TPE  =RTP+2*(RSG-1)                  I
             I QNO  =NUMQT(TPE)                     I
             ----------------------------------------
                       I
                       I
                  +------------+
                 + DO           +
          ++++++++++ 1000          +
          +         + K=1,QNO      +
          +          +------------+
          +               I
          +               I
          +       ----------------------------------------
          +       I ITEST=SUBGRD(RTP,MDRC(TPE,K),ANS(K))  I
          +       I COUNT=COUNT+ITEST                     I
          +       ----------------------------------------
          +               I
          +
J00       ++++++++CONTINUE
                  I
             ----------------------------------------
             I GRAD =COUNT/QNO                      I
             ----------------------------------------
                       I
                       I
```

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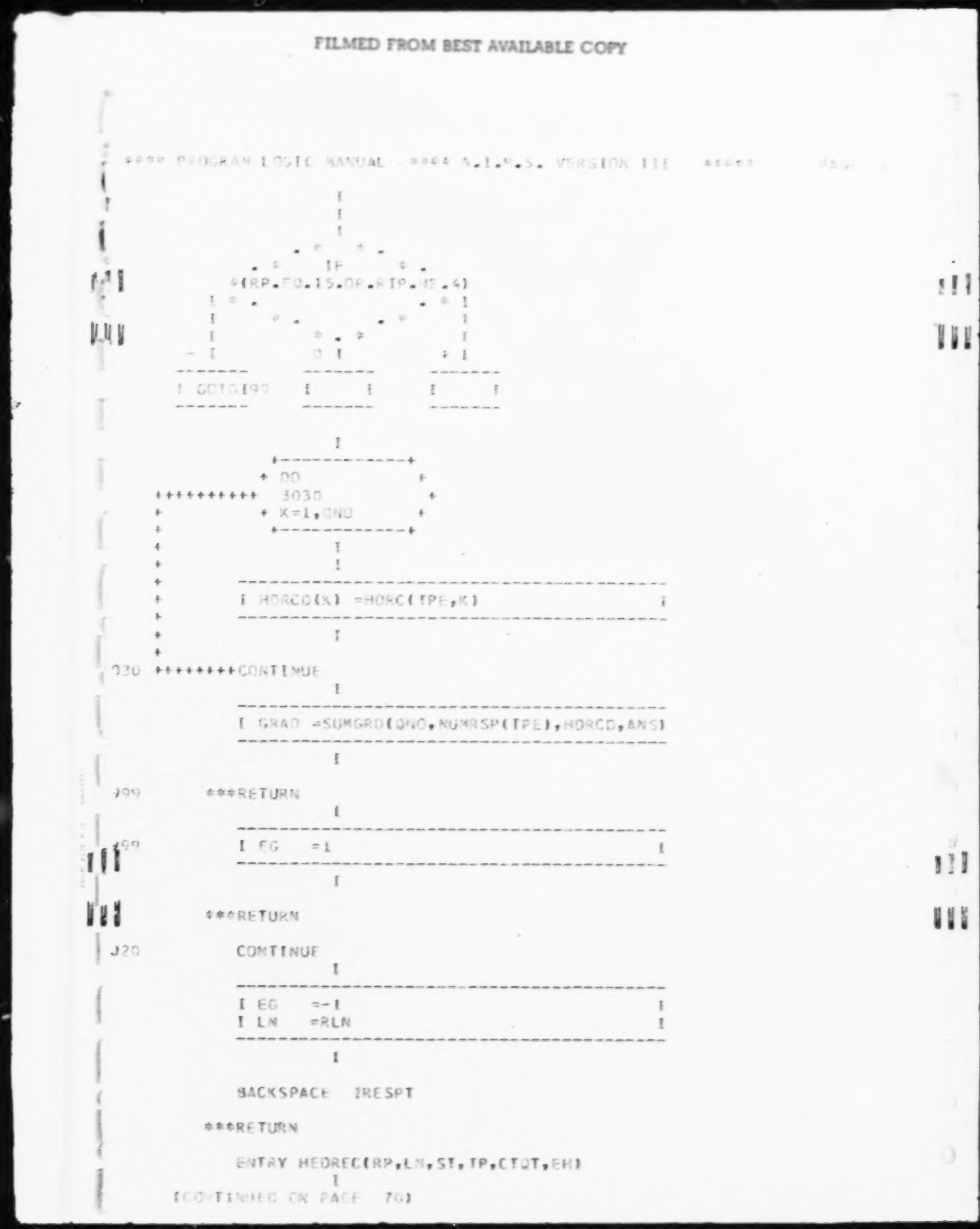

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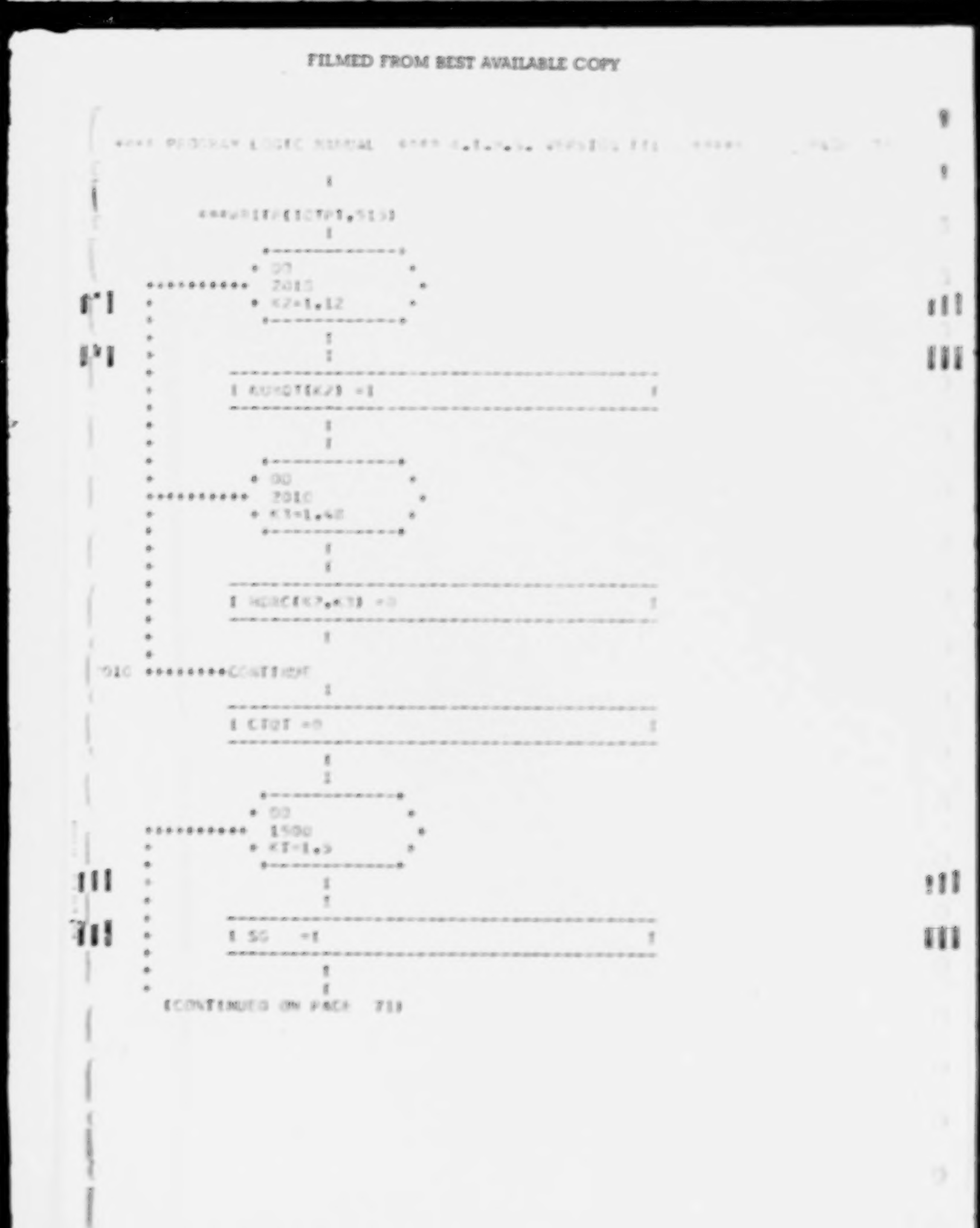

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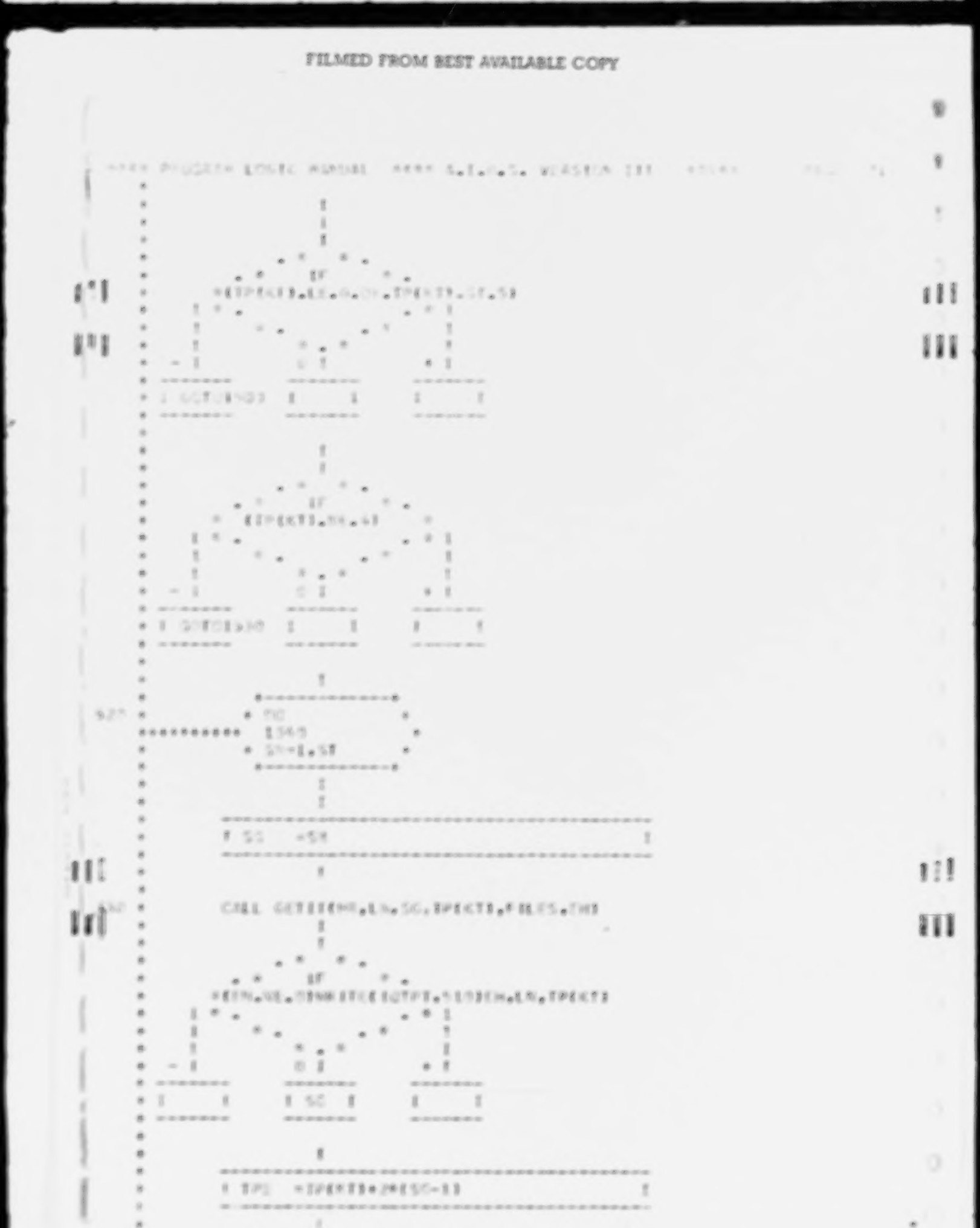

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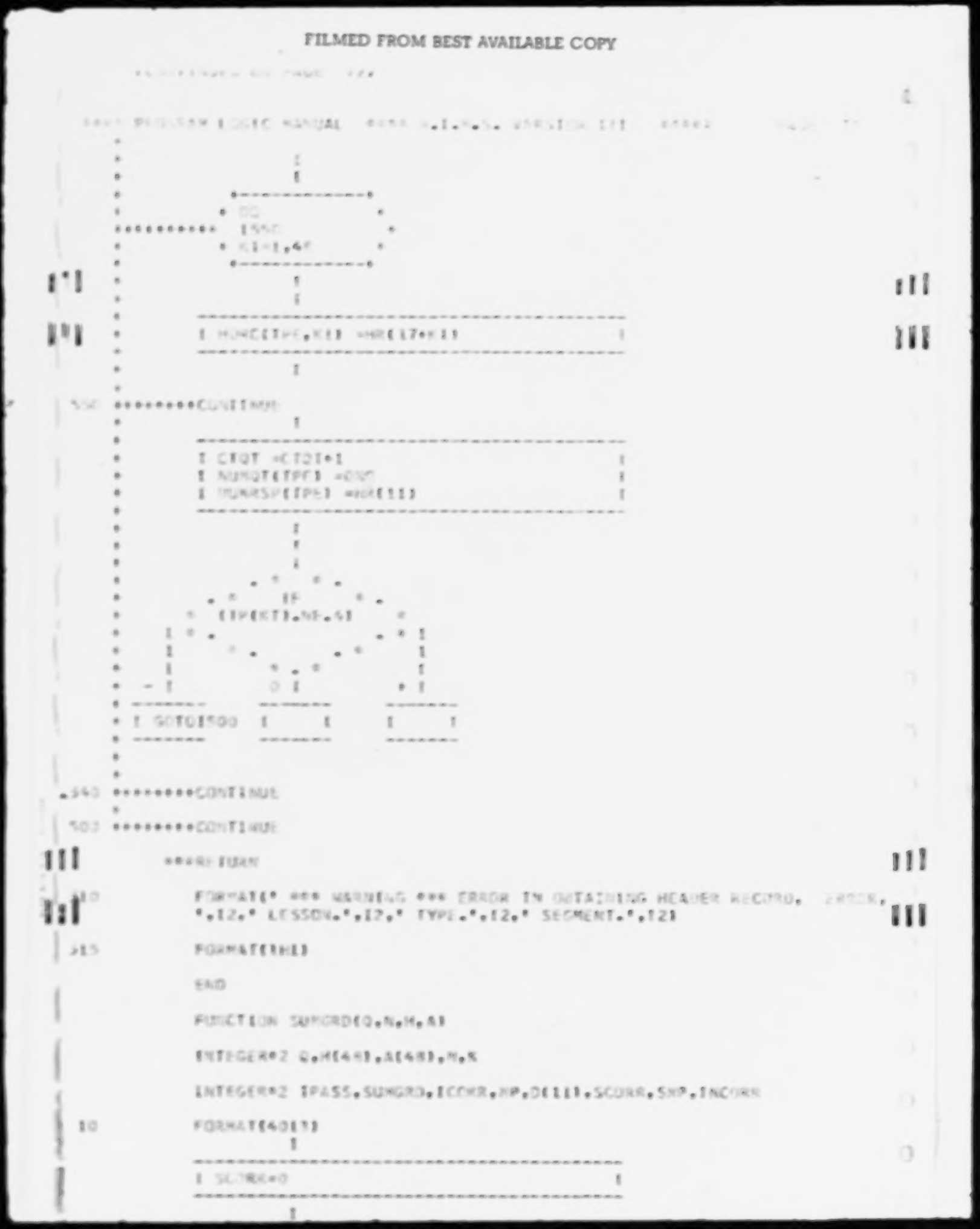

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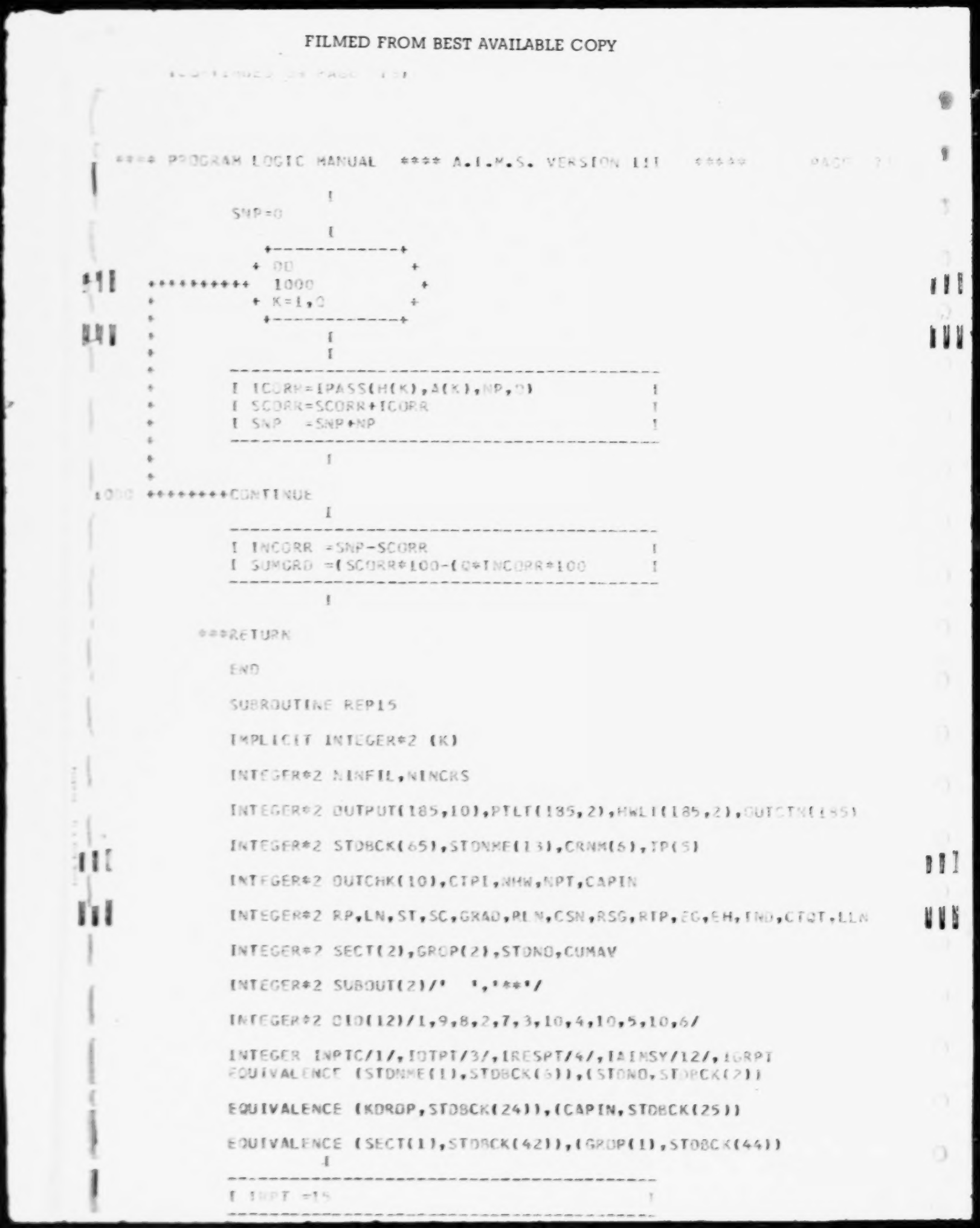

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```
                    I
      ***READ(IAIMSY'1) NINFIL,NINCRS

      ***READ(INPTC,10) RP,LN,ST,SC,(TP(K),K=1,5),(CRNK(K),K=1,5),(CRRP)

      ***READ(INPTC,13) LLN
         READ(INPTC,14)  ((PTLT(K1,K2),K2=1,2),(HWLT(K1,K2),K2=1,2),
         K1=1,NINFIL)

2070     CONTINUE
                    I
               ----------------------------------------
               I JSTD =1                               I
               I IPGE =1                               I
               ----------------------------------------
                    I
                    I
                 +------------+
               + DO           +
     ++++++++++  2020          +
     +         + KDUM7=1,NINFIL
     +          +------------+
     +               I
     +               I
     +         ----------------------------------------
     +         I OUTCTN(KDUM7) =0                      I
     +         ----------------------------------------
     +               I
     +               I
     +            +------------+
     +          + DO           +
     ++++++++++  2020          +
     +          + KDUM8=1,10    +
     +           +------------+
     +               I
     +
     +         OUTPUT(KDUM7,KDUM8)=0
     +
  2020 ++++++++CONTINUE
                    I
               CALL HEDRE1(LN,ST,TP,CTOT,EH)

               CALL SUBMIT(TP,ST)
                    I
               ----------------------------------------
               I KREAD=NINFIL*CTOT                     I
               ----------------------------------------
                    I
                    I
                 +------------+
               + DO           +
     ++++++++++  2000          +
     +         + KDUM4=1,KREAD+
     +          +------------+
     +               I
     +               I
```

(CONTINUED ON PAGE 75)

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```
      +
      +                  I
      +
      +        CALL GRAD1(GRAD,RLN,CSN,RSG,RTP,EG)
      +                  I
      +                  I
      +              . *   * .
      +          . *     IF      * .
      +        *      (EG.NE.0)       *
      +     I * .                   . * I
      +     I      * .           . *     I
      +     I           * . * .           I
      +   - I             0 I             + I
      +  -------       -------       -------
      +  I GOTO(OLD  I      I       I      I
      +  -------       -------       -------
      +
      +
      +        CALL CHECK(CSN,RTP,RSG)
      +                  I
      +        ------------------------------------------
      +        I IND  =OID(RTP+2*(RSG-1))                I
      +        ------------------------------------------
      +                  I
      +
      +        OUTPUT(CSN,IND)=GRAD
      +                  I
      +        ------------------------------------------
      +        I OUTCTN(CSN) =OUTCTN(CSN)+1              I
      +        ------------------------------------------
      +                  I
      +
 1000 ++++++++CONTINUE
 
 2J10           CONTINUE
                        I
                ----------------------------------------
                I JDUM2=(NINFIL/45)+1                    I
                ----------------------------------------
                        I
                        I
                   +------------+
                  + DO           +
      ++++++++++   1100            +
      +           + JDUM1=1,JDUM2+
      +            +------------+
      +                  I
      +
      +        CALL HEADPG(IRPT,IPGE)
      +
      +     ***WRITE(IOTPT,510)
      +
      +     ***WRITE(IOTPT,515)(CRNM(K2),K2=1,6),LN
      +
      +     ***WRITE(IOTPT,501)
      +
      +     ***WRITE(IOTPT,530)
      +                  I
```

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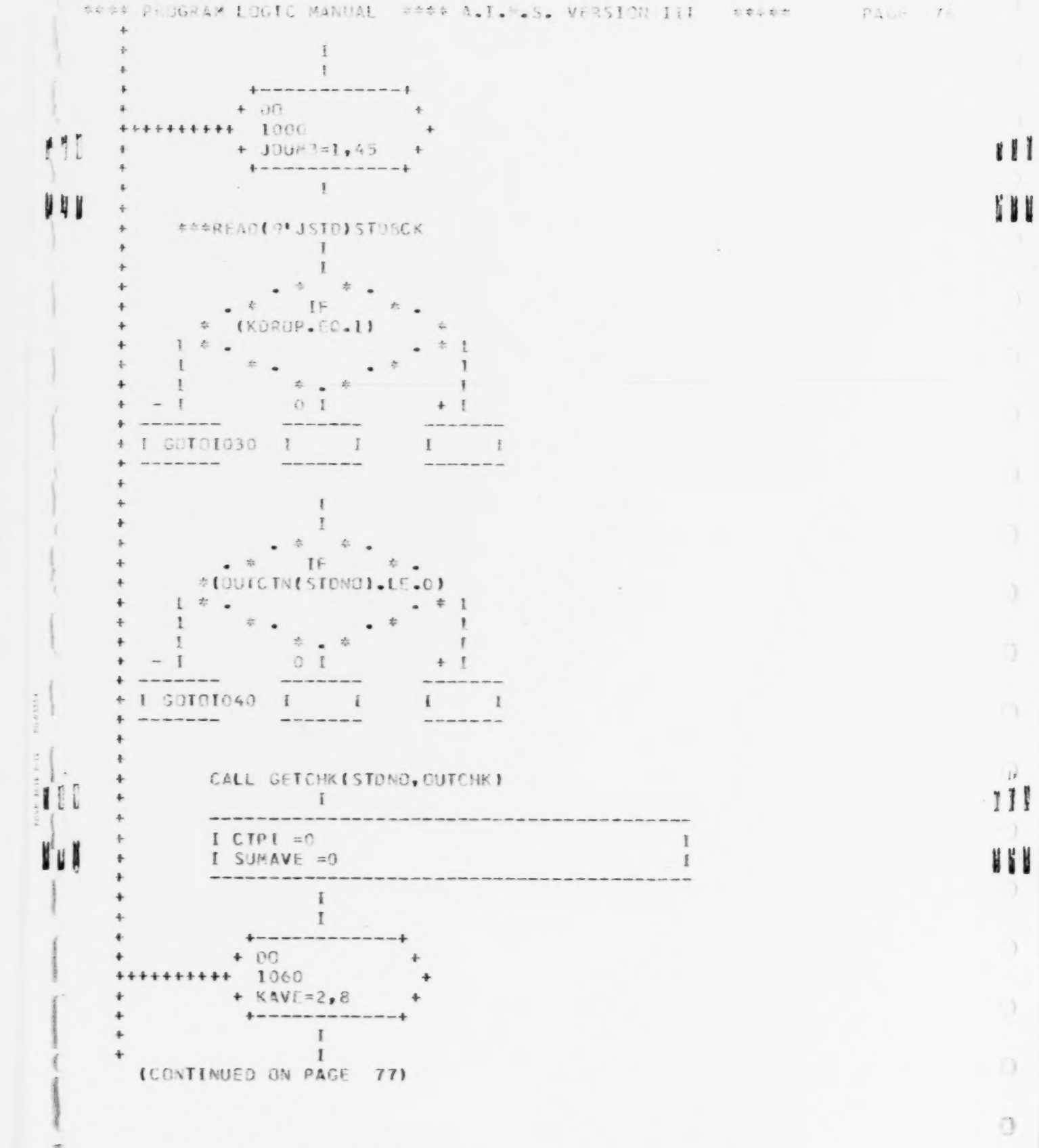

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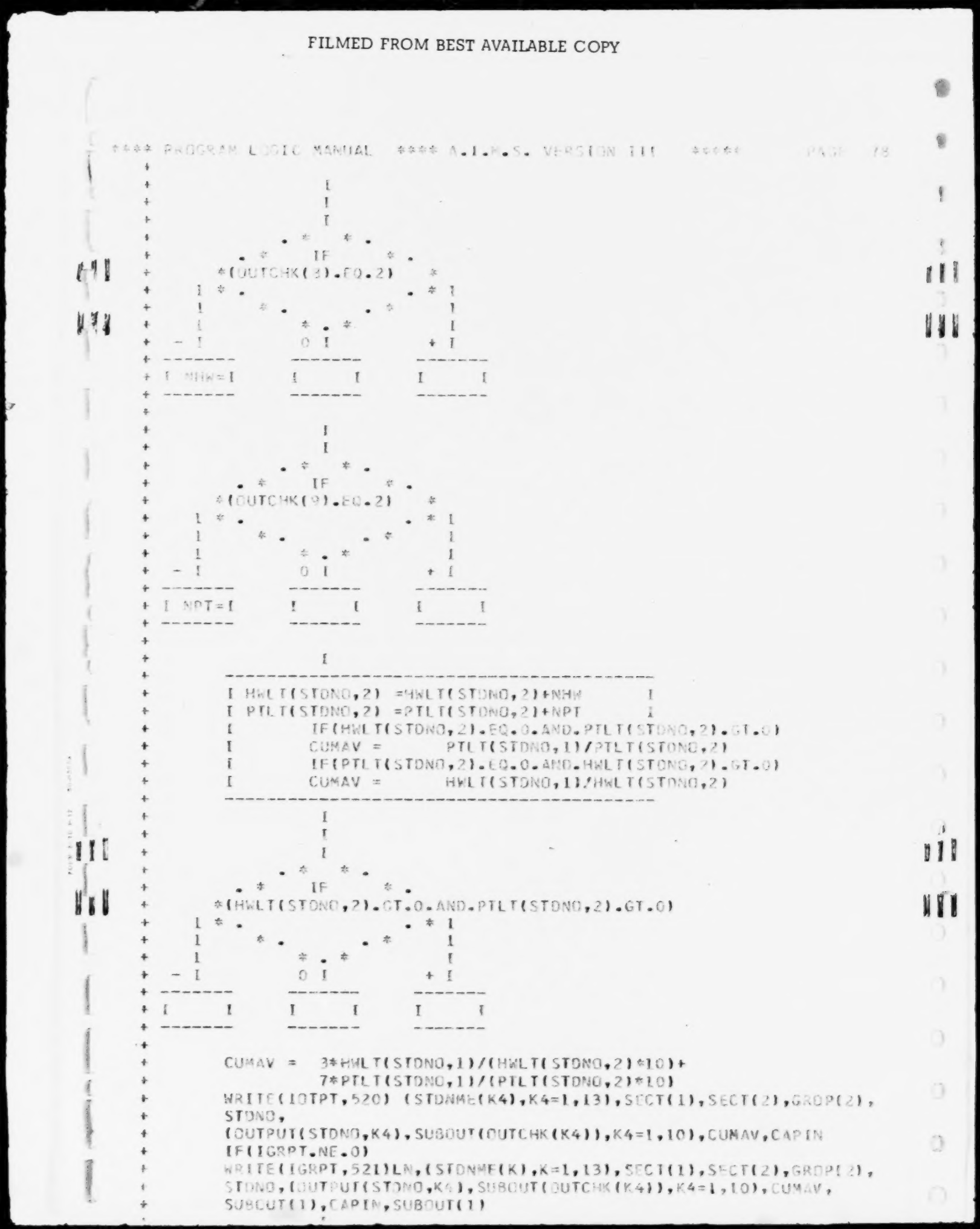

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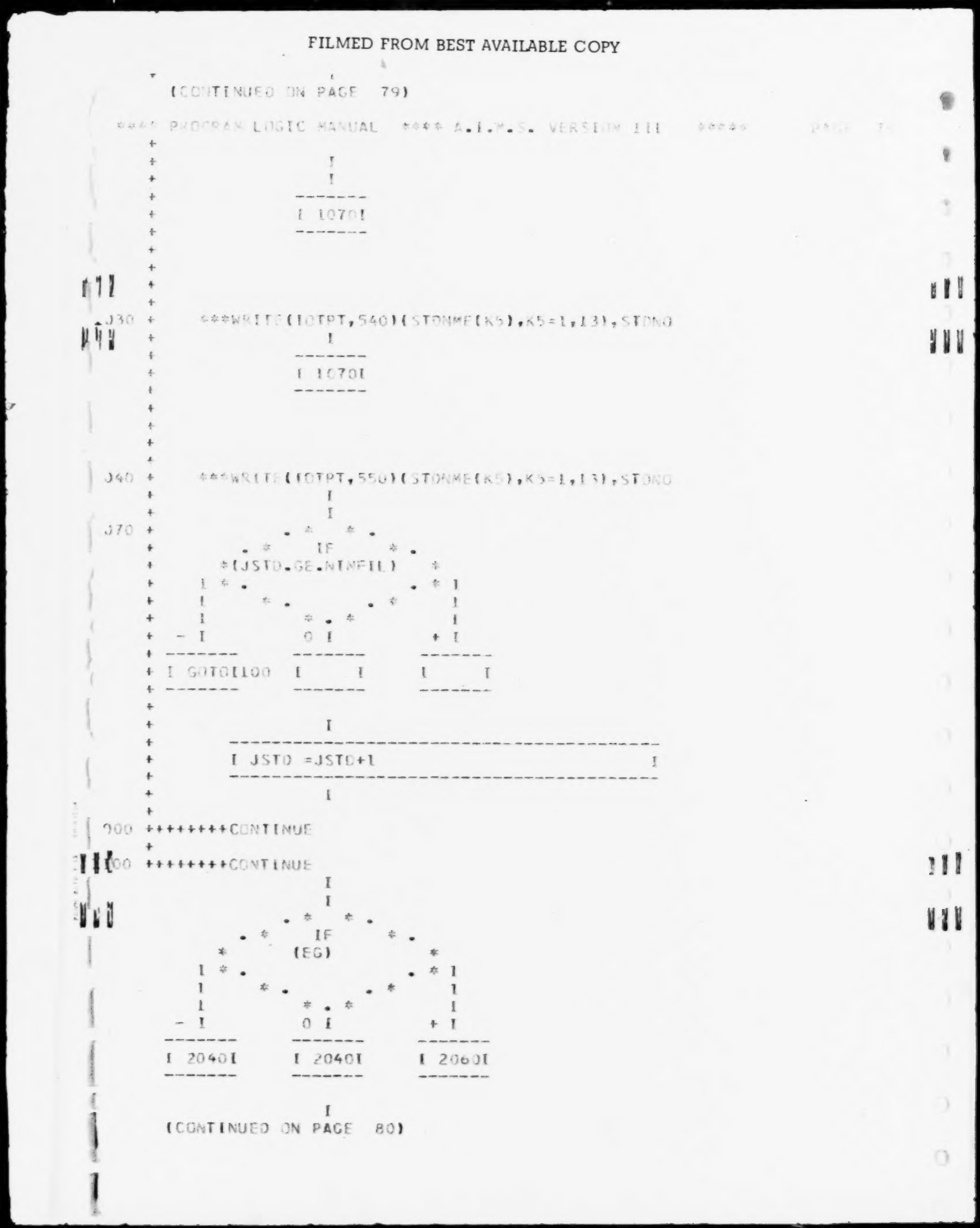

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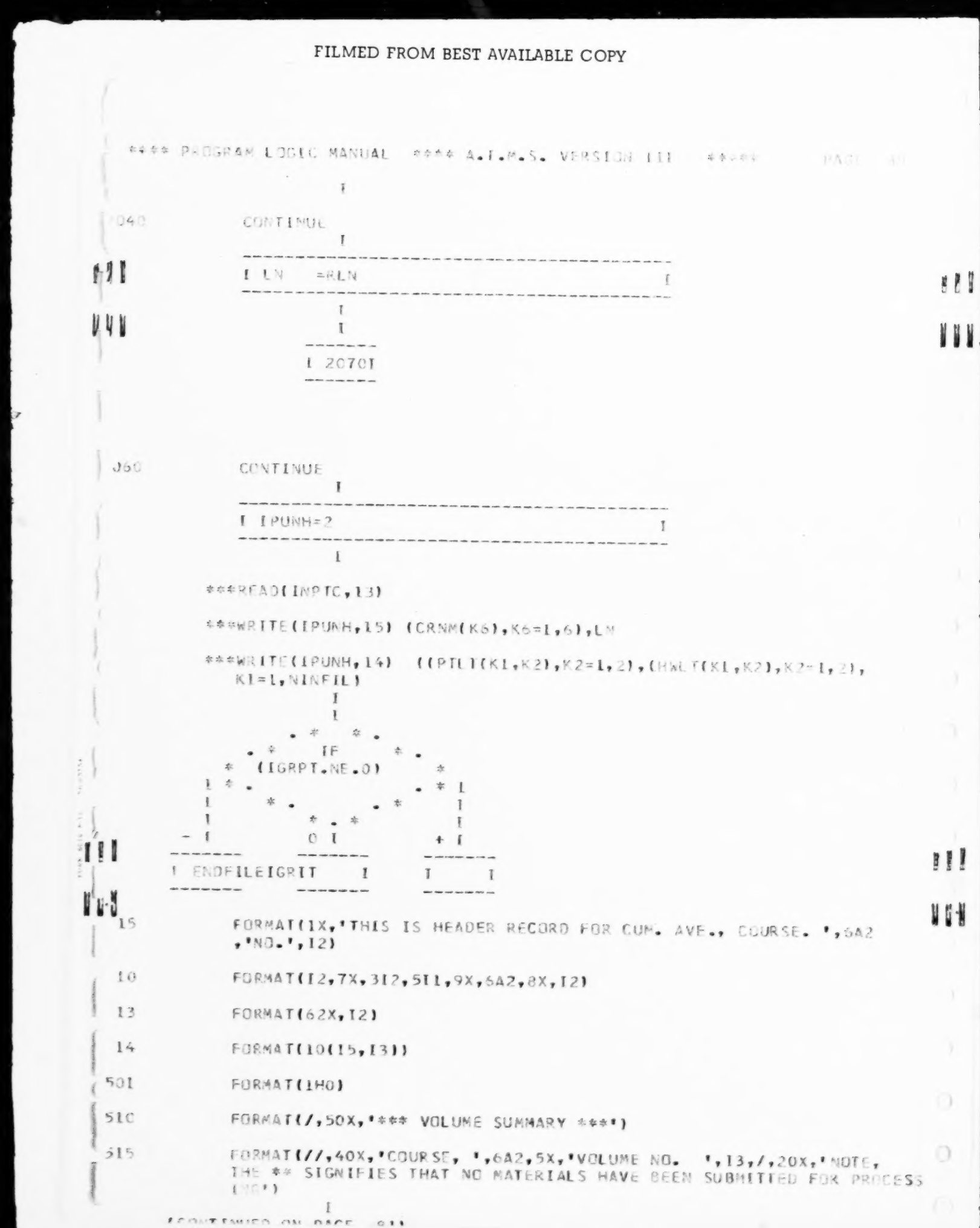

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```
 520      FORMAT(1X,12A2,A1,3A2     ,I3,10(2X,I3,'.',A2),2X,I3,'.',4X,I3,'.')

 521      FORMAT(I2,12A2,A1,3A2,I3,12(I3,'.',A2))
 530      FORMAT  (10X,'STUDENT',15X,'CSN  PRE.',5(3X,'STUDY'),
          '  ASSIGN    HOME    POST    PERF.    CUM.    CAPL.',/,
          37X,'TEST   GDE(1)  GDE(2)  GDE(3)  GDE(4)  GDE(5)',
          11X,'WORK     TEST    INDEX     AVE.    INDEX')

 540      FORMAT(1X,12A2,A1,6X,I3,6X,'STUDENT DROPPED')

 550      FORMAT(1X,12A2,A1,6X,I3,6X,'THIS STUDENT DOES NOT HAVE ANY MATERIA
          LS TO BE PROCESSED')

 990    ***RETURN

          END

          SUBROUTINE GRAD(GRAD,RLN,CSN,RSG,RTP,EG)

          IMPLICIT INTEGER*2 (K)

          INTEGER FILES(5)/12,6,8,4,0/,IRESPT/4/,IQTPT/3/

          INTEGER*2 HDRC(16,48),HR(65),RESPR(65),ANS(48),NUMQT(16),TP(5)

          INTEGER*2 GRAD,CSN,RSG,RTP,EG,LN,ST,CTQT,EH,RLN

          INTEGER*2 COUNT,TPE,QNO,RIGHT,TEST,SG,SN

          INTEGER*2 SUBGRD

          EQUIVALENCE (RESPR(18),ANS(1)),(QNO,HR(13))
                      I
          ------------------------------------------
          I EC   =0                                 I
          I GRAD =0                                 I
          I COUNT=0                                 I
          ------------------------------------------
                      I

 100    ***READ(IRESPT,END=9999)RESPR
                      I
          ------------------------------------------
          I RLN  =RESPR(1)                          I
          ------------------------------------------
                      I
                      I
```

(CONTINUED ON PAGE 82)

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```
3210      CONTINUE
                  I
          ----------------------------------------
          I CSN  =RESPR(2)                       I
          I RSG  =RESPR(3)                       I
          I RTP  =RESPR(4)                       I
          I TPE  =RTP+2*(RSG-1)                  I
          I QNO  =NUMQT(TPE)                     I
          ----------------------------------------
                  I
                  I
               +-------------+
              + DO            +
     +++++++++  1000            +
     +        + K=1,QNO         +
     +         +-------------+
     +               I
     +               I
     +        ----------------------------------------
     +        I ITEST=SUBGRO(RTP,MORC(TPE,K),ANS(K))  I
     +        I COUNT=COUNT+ITEST                     I
     +        ----------------------------------------
     +               I
     +
3900 ++++++++CONTINUE
                  I
          ----------------------------------------
          I GRAD =COUNT/QNO                      I
          ----------------------------------------
                  I
9999      ***RETURN
                  I
          ----------------------------------------
9999      I EG   =1                              I
          ----------------------------------------
                  I
          ***RETURN
3920      CONTINUE
                  I
          ----------------------------------------
          I EG   =-1                             I
```

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```
                    I
            LN=RLN

            BACKSPACE  IRESPT

      ***RETURN

            ENTRY HEDRE1(LN,ST,IP,CTOT,FH)

      ***WRITE(IOTPT,515)
                    I
                 +-------------+
                + DO            +
     +++++++++++  2010           +
     +          + K2=1,16       +
     +           +-------------+
     +                 I
     +                 I
     +        ------------------------------------------
     +        I NUMOT(K2) =1                           I
     +        ------------------------------------------
     +                 I
     +                 I
     +           +-------------+
     +          + DO            +
     +++++++++++  2010           +
     +          + K3=1,48       +
     +           +-------------+
     +                 I
     +                 I
     +        ------------------------------------------
     +        I MORC(K2,K3) =0                         I
     +        ------------------------------------------
     +                 I
     +
2010 ++++++++CONTINUE
                       I
            ------------------------------------------
            I CTOT =0                                 I
            ------------------------------------------
                       I
                       I
                 +-------------+
                + DO            +
     +++++++++++  1500           +
     +          + KT=1,5        +
     +           +-------------+
     +                 I
     +                 I
     +        ------------------------------------------
     +        I SG   =1                                I
     +        ------------------------------------------
     +                 I
     +                 I
```

(CONTINUED ON PAGE 84)

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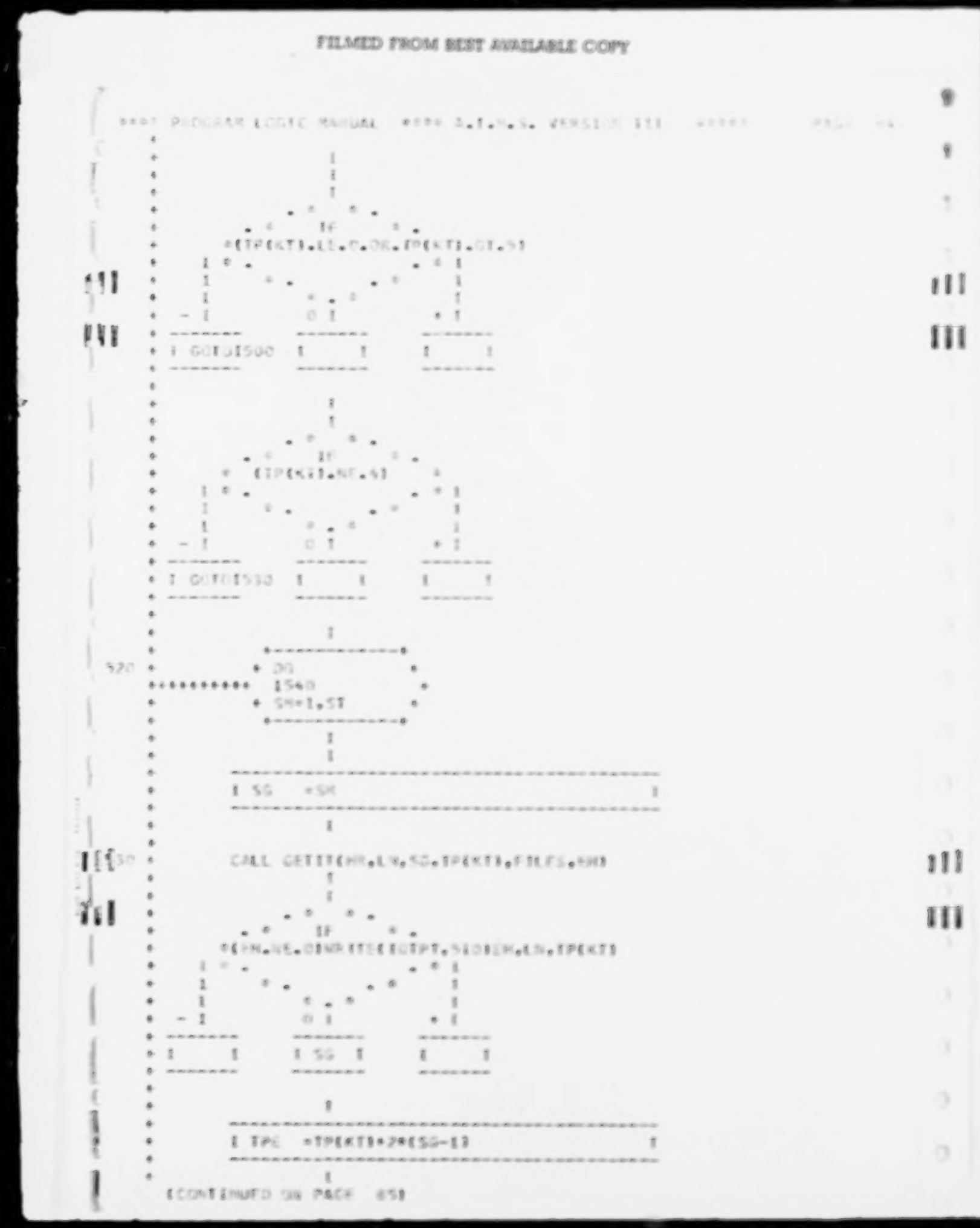

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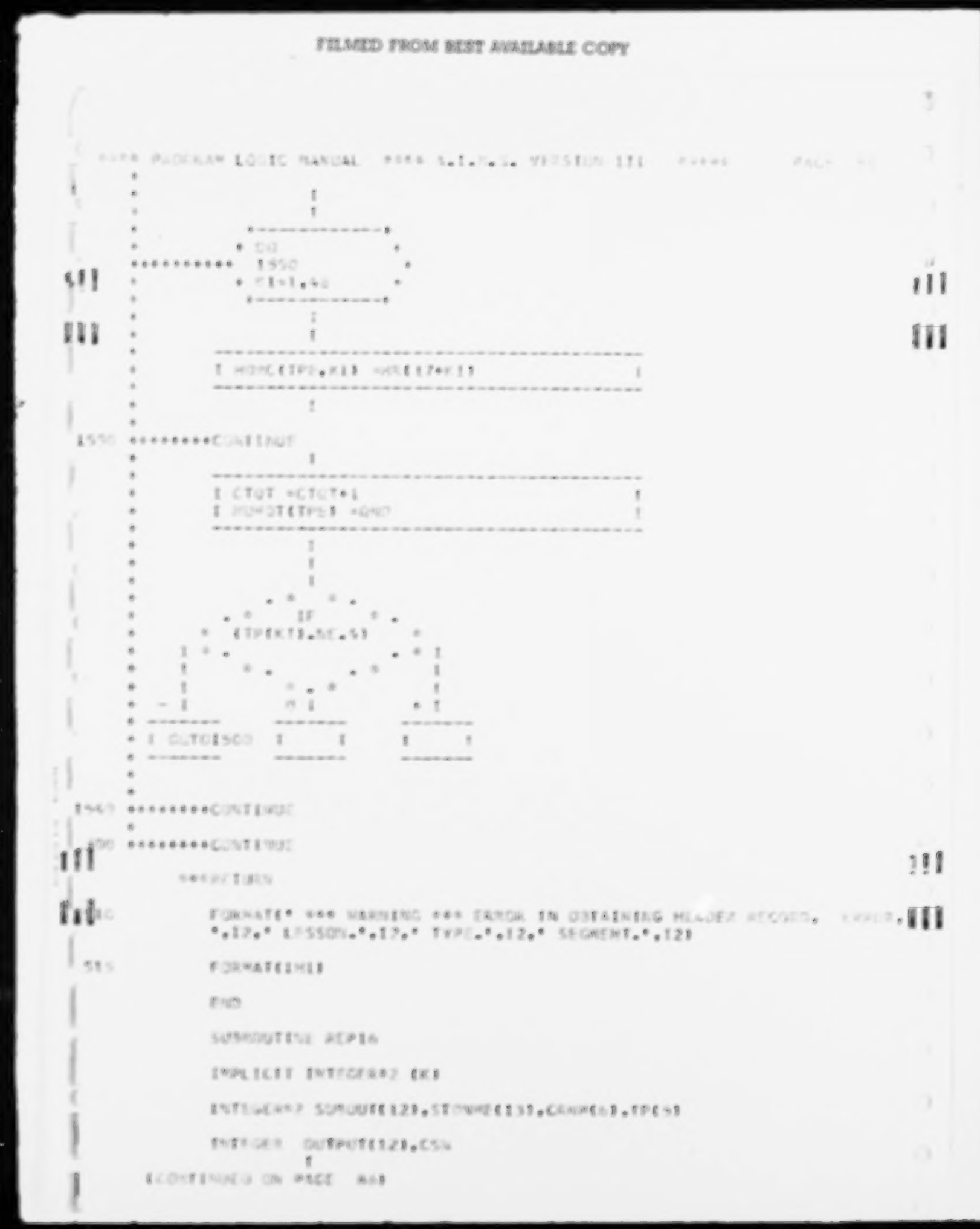

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```
                    I
          INTEGER*2 ID(2,2),LID(2,2),LLN
          INTEGER*2 PP,LN,ST,SC
          INTEGER INPTC/1/,IOTPT/3/,LRCSPT/4/,IAIMSY/12/,IGRPT
          DATA ID(2,1)/'  '/,LID(2,1)/'  '/
                    I
          ------------------------------------------
          I IRPT =16                               I
          ------------------------------------------
                    I
      ***READ((INPTC,10) PP,LN,ST,SC,(FP(K),K=1,5),(CRMM(K),K=1,6),IGRPT
          READ(IGRPT,521)
          LN ,(STOSME(K),K=1,13),((ID(I,K),K=1,2),ID(2,2) , CSN,
          (OUTPUT(K),SUBOUT(K),K=1,12)
 7300     CONTINUE
                    I
          ------------------------------------------
          I LLN  =LN                               I
          ------------------------------------------
                    I
                    I
                 +-------------+
                + DO            +
     +++++++++++  6000           +
     +          + J=1,2          +
     +           +-------------+
     +                 I
     +                 I
     +           +-------------+
     +          + DO            +
     +++++++++++  6000           +
     +          + K=1,2          +
     +           +-------------+
     +                 I
     +                 I
     +       ------------------------------------
     +       I LID(J,K) =ID(J,K)                I
     +       ------------------------------------
     +                 I
     +
 6000 ++++++++CONTINUE
          BACKSPACE IGRPT
                    I
          ------------------------------------------
          I IPGE =1                                I
          ------------------------------------------
                    I
 000      CONTINUE
                    I
      (CONTINUED ON PAGE  97)
```

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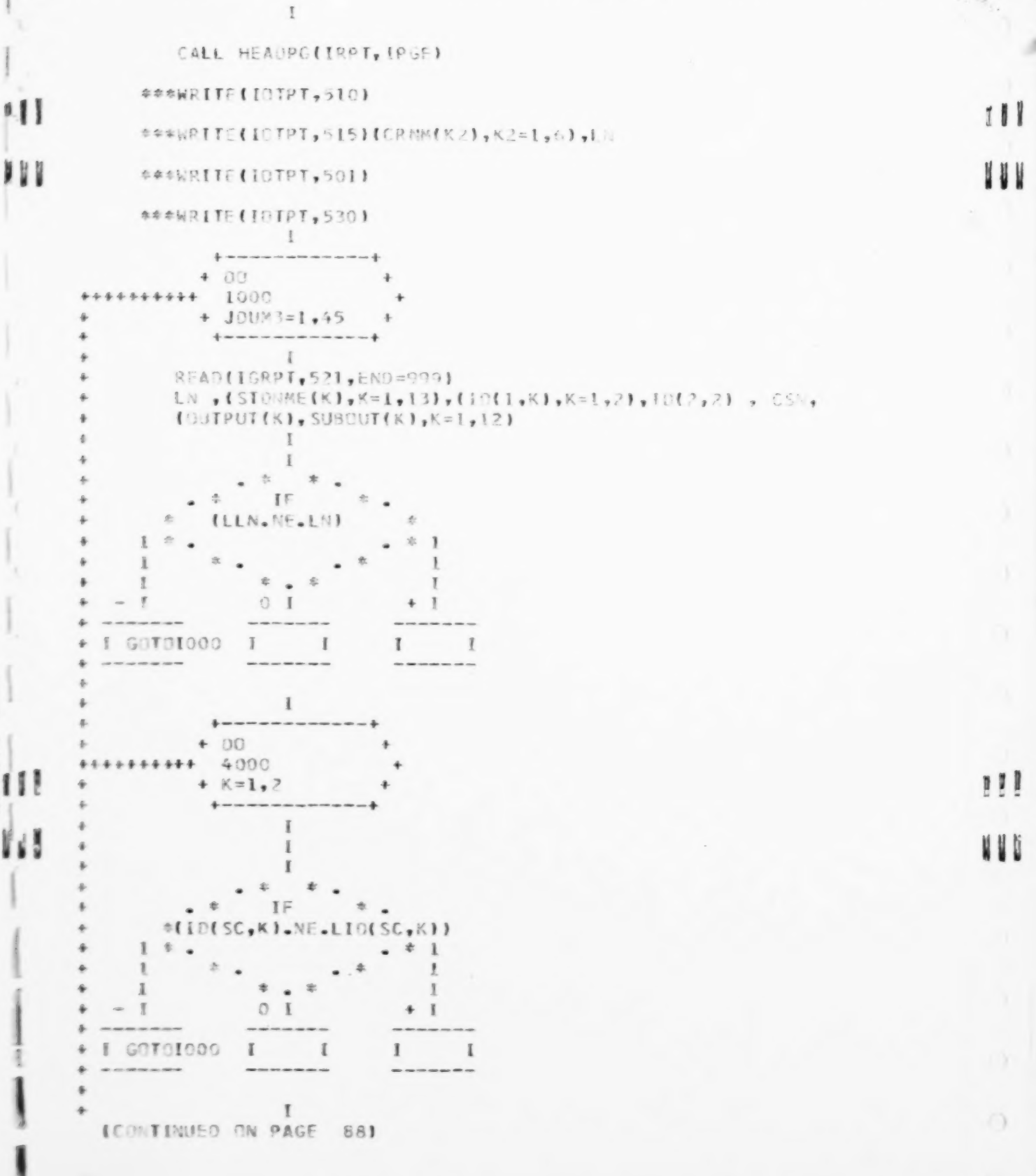

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```
      +
      +                    I
      +
 1000 +++++++++CONTINUE
      +                    I
      +         ------------------------------------------
      +         I LLN  =LN                                 I
      +         ------------------------------------------
      +                    I
      +                    I
      +            +-------------+
      +            + DO          +
      ++++++++++++  2000          +
      +            + J=1,2       +
      +             +------------+
      +                    I
      +                    I
      +             +------------+
      +            + DO          +
      ++++++++++++  2000          +
      +            + K=1,2       +
      +             +------------+
      +                    I
      +                    I
      +         ------------------------------------------
      +         I LIO(J,K) =IO(J,K)                        I
      +         ------------------------------------------
      +                    I
      +
 2000 +++++++++CONTINUE
      +         WRITE(IOTPT,520)
      +             (STONME(K),K=1,13),(IO(1,K),K=1,2),IO(2,2) , CSN,
      +         (OUTPUT(K),SUBOUT(K),K=1,12)
      +
 3000 +++++++++CONTINUE
                           I
                      -------
                      I 5000I
                      -------
```

```
   10          FORMAT(I2,7X,3I2,5I1,9X,6A2,8X,I2)

  501          FORMAT(1H0)

  510          FORMAT(/,50X,'*** VOLUME SUMMARY ***')

  515          FORMAT(//,40X,'COURSE, ',6A2,5X,'VOLUME NO.  ',A2,/,20X,'NOTE,
               THE ** SIGNIFIES THAT NO MATERIALS HAVE BEEN SUBMITTED FOR PROCESS
               ING')

  520          FORMAT(1X,12A2,A1,3A2,A3,12(2X,A4,A2))

  521          FORMAT(A2,12A2,A1,2A2,A2,A3,12(A4,A2))
  530          FORMAT  (10X,'STUDENT',15X,'CSN  PRE.',5(3X,'STUDY'),
               '  ASSIGN    HOME    POST   PERF.   CUM.   CAPL.',/,
               37X,'TEST   GDE(1)  GDE(2)  GDE(3)  GDE(4)  GDE(5)',
               11X,'WORK    TEST   INDEX    AVE.   INDEX')
```

(CONTINUED ON PAGE 89)

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```
                    I

340         FORMAT(1X,12A2,A1,6X,I3,6X,'STUDENT DROPPED')

350         FORMAT(1X,12A2,A1,6X,I3,6X,'THIS STUDENT DOES NOT HAVE ANY MATERIA
            LS TO BE PROCESSED')

399       ***RETURN

            END
 0191
```

TRACEBACK FOLLOWS- ROUTINE ISN REG. 14 REG. 15 REG. 0 REG. 1
IBCOM 9200302C 00005E58 00000001 00000000
MAINPG
ENTRY POINT= 0000IFE8